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New Competition

Foreign Direct Investment and Industrial Development in China

NEW COMPETITION

FOREIGN DIRECT INVESTMENT AND INDUSTRIAL DEVELOPMENT IN CHINA

Nieuwe Competitie
Buitenlandse directe investeringen en industriële ontwikkelingen in China

Thesis
to obtain the degree of Doctor from the
Erasmus University Rotterdam
by command of the
Rector Magnificus
Prof.dr. S.W.J. Lamberts
and according to the decision of the Doctorate Board
the public defence shall be held on
Thursday November 18, 2004 at 16:00 hrs

by
Guoyong Liang
born in Jinan, China

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Erasmus Research Institute of Management (ERIM)
Rotterdam School of Management / Rotterdam School of Economics
Erasmus University Rotterdam

Internet: http://www.erim.eur.nl

ERIM Electronic Series Portal: http://hdl.handle.net/1765/1

ERIM Ph.D. Series Research in Management 47

ISBN 90-5892-073-9

For Ying

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Preface

This study began with a preliminary research proposal made in 1999. Then the central research question was: what are the competitive/structural effects of inward foreign direct investment (FDI) in Chinese industries and what are the implications of these effects for public policy? Developments in recent years reinforced the importance of this type of research for the future economic advancement of China. The drafting of a Ph.D. thesis according to this research proposal formally began in early 2002. A conceptual framework has been gradually polished to incorporate the central notion of 'industrial development' by which I try to cover several interrelated dimensions of the development process of an industry. However, the focus has remained on the impact of FDI on competition and market structure in manufacturing industries.

Although the research project was conceived as an investigation of the overall impact of FDI on industrial development, this study is decidedly about the competitive effects through which FDI influences industrial development in an emerging market economy. This explains the title of the book. The meaning of 'new competition' is manifold: first, new forces of competition have been injected into Chinese industries through imports, market entries and various institutional arrangements during China's reform period. Consequently, new competitive situations emerged in Chinese industries. Inward FDI has become a crucial channel through which a new competitive force was introduced from abroad. Secondly, this study aims at a new understanding of competition in China's reform era. By exploring both the new, as well as the 'old', forces of competition and the new competitive situations emerging in Chinese industries, this new understanding presents a particular interpretation of the much heralded – but less understood – 'Chinese miracle'. In this sense, this study is an industrial-level extension of the theoretical argument that competition contributed significantly to China's economic development in the reform period, as emphasised by several Chinese economists. Thirdly, based on concrete empirical evidence, this study provides new policy recommendations to the Chinese government advocating a more sophisticated and competition-friendly framework of public policy, which requires both the introduction of new institutions and the upgrading of existing policy instruments and benefits both the welfare of Chinese consumers and the competitiveness of Chinese enterprises. This framework is vital, I believe, to ensure the contestability of markets, to reap the benefits of FDI, to tackle the negative effects of FDI and to promote long-term sustainable industrial development.

As suggested by Perkins (2002), what is so exiting about studying the Chinese economy is that one is dealing with really big issues. In the United States, for instance, a large number of economists are analyzing with great sophistication how to make (perhaps) already efficient markets slightly more efficient. In China, a much smaller number of well-trained economists are studying the far more complex problems of what kind of institutions the country should have and how to create them and make them work well.

Although China can learn from the institutions in developed countries, it cannot simply copy them. For now, as further argued by Perkins, economists need to address the truly big issues of structural change in developing countries in general and in China in particular. The third big issue proposed by Perkins, namely the 'optimal' industrial organisation for China, is closely related to the theme of this study.

Inward FDI has imposed a significant impact on the industrial organisation in China, which has become one of the most popular investment destinations in the world. China has sucked in US$ 500 billion in FDI inflows. It has already become the largest recipient of FDI in the world since 2002. Actively attracting FDI inflows becomes an integral element of the Chinese model of economic development. Aggregately, inward FDI has introduced a crucial competitive force into the Chinese economy and contributed to the development of China's private sector. At the industry level, however, the exact effects of inward FDI and MNC presence on market competition and industrial development remain unclear. By addressing this gap, the study presents an empirical work associated with the validity of a policy framework established to maximise the benefits of FDI for industrial development while mitigating the costs. The establishment of such a policy framework requires the support of sound policy-oriented research. Analytical works such as this can help to explicate the relevance of competition-friendly government policies and therefore contribute to develop such an appropriate legal and administrative framework in China. Not surprisingly, given the rapid pace of change, most of the available accounts of the Chinese industries failed to adequately reflect the dynamics in the Chinese economy. One crucial feature of this study is therefore a deep up-to-date microeconomic analysis at the industry level.

Aims

The primary aim of this study is to examine inward FDI as an industrial phenomenon – how the introduction of a new competitive force through FDI inflows influences the development of industries. This study contains three general streams of argumentation. First, this study suggests that, under certain circumstances, Multinational Corporations (MNCs) and domestic firms might collaborate to dominate a market, for instance by establishing international joint ventures, which reinforces the problems of market dominance, regulatory capture and welfare losses. These circumstances are largely characterised by restrictive government policies in addition to the strong presence of a state-owned sector. With regard to the potential anticompetitive effects of inward FDI, the traditional wisdom is that FDI may increase market concentration and lead to dominant positions of MNCs after entry by suppressing or crowding out domestic firms. The firm-specific advantages that the MNCs have may raise barrier to entry for local firms or make competition too strong for existing local firms and thus crowd them out, thereby increasing concentration and restricting competition. The findings of the case study on China's passenger car industry (Chapter 6) challenge this proposition by pointing out the possibility of collaboration between MNCs and local firms. Based on a multidimensional and dynamic framework of analysing industrial development, this study examines the costs and causes of the lack of competition in the 'protected' industries in emerging market economies. The results suggest that the costs may be significant in most aspects of industrial development and consumers have to pay most of the prices.

Secondly, this study seeks to illustrate the critical role of policy environment in determining the effects of inward FDI. It has been widely acknowledged that competitive conditions in industries may to a large extent determine the impact of FDI on economic development. However, evidence lacks at the industry level to support this argument.

Furthermore, how government policies influence the FDI impact on industrial development remains largely unclear, particularly for developing countries and emerging market economies where government regulation still prevails. Traditionally trade policy has been the central concern. However, the simple dichotomy in development economics of 'import substitution' versus 'export promotion' does not provide convincing explanations. By examining the nature of competition in Chinese industries, this study supports the argument that, in developing countries, anticompetitive restrictions still come from paternalistic government interventions in general and restrictions on market entry in particular. The automotive and electronics & ICT industries in China (Chapter 6 and Chapter 7) provide two contrasting cases and present two basic models of industrial development and associated industrial policies: a more open and competitive model and a more closed and protectionist model. The two models can be generally classified according to the degrees of both entry restrictions and trade barriers. The two models show distinctly different performance. An *a posteriori* conclusion is that the lower the entry and trade barriers, the more competitive the market will be and the more positive the impact of FDI on industrial development. However, it remains debatable whether the performance differences between the two contrasting cases were caused by government policies or by other factors, such as industrial characteristics, initial conditions and different global configurations.

In addition to theory building, this study also seeks to help policy makers understand the evolution of industries and to provide a fact base for decision making at both the industrial and national level. The effectiveness of industrial policy is generally supported by the 'multiple case' case study on China's electronics and ICT industry in general and the telecom equipment industry in specific (Chapter 7). The risks and uncertainties associated with the formulation and implementation of industrial policies are also highlighted by the case of China's passenger car industry (Chapter 6). In the context of an emerging market economy, as demonstrated by the Chinese case, the risks of industrial policy may stem from various sources: first, unnecessary regulation may be imposed in the name of industrial policy; second, therefore, any type of competition mechanisms may be seriously hindered by these regulatory policies; third, selective support towards a limited number of firms may lead to reverse selection and the sustainability of inefficient firms; fourth, the focus on the development of in particular large enterprises may lead to regulatory capture that in turn results in the neglect or under-presentation of consumer interests, hence causing welfare losses for the society as a whole; fifth, the positive effects of inward FDI and private entry may be hampered or even reversed by specific regulatory measures. Competition policy may have an important role to play in tackling these problems, both in building public support for procompetitive government policy through competition advocacy and in promoting a competitive market environment by countering private restrictions on competition. Therefore, competition policy is proposed as a necessary part of a policy framework to ensure that inward FDI, in combination with other forces, can play a positive role in promoting industrial development.

Thirdly, this study dedicates to advancing the understanding of the FDI impact on competition and industrial development in emerging markets. There are a number of possible approaches one could take to such a project. One approach would be to begin with certain predetermined theories and then to use China to test these theories. China is an important test case for general theories and such an approach has obvious advantages. However, relying in the context of a very large transition economy on predetermined theories drawn from the experience of very different economies is dangerous. This would probably imply improper deductive reasoning. Furthermore, existing theories on the

relationship between FDI and industrial development is generally static and cannot really explain nor map the dynamic process though which FDI influence industrial development in emerging markets. The approach adopted by this study is somewhat different. It does not expressly start with the objective of testing China against any predetermined theory. Rather, this study addresses a number of theoretical gaps, develops a more dynamic theory on the basis of an eclectic use of theories (in Part II), and then tests a number of Chinese industries against this dynamic theory (in Part III).

This study (Section 4.3) seeks to extend the traditional static approach to the relationship between FDI and industrial concentration to include the dynamics by introducing a crucial question: namely, how market share achievements of foreign firms are determined in emerging markets over time? Although the traditional static analysis highlights the core of the structural problem that FDI could pose on domestic industries, markets, particularly those in developing countries, are constantly undergoing change. The FDI impact on competition is dynamic in nature and should therefore be studied longitudinally. However, there is very little empirical work on this issue, due in part to the lack of a conceptual design and succinct testable hypotheses. An inquiry on the sources of market dominance in China's passenger car industry (Chapter 6) suggests that the foreign market share achievements of MNCs can be modelled in terms of firm level strategic variables and institutional characteristics. This study (Section 4.4) tries to extend the dynamic approach as well. It examines the relationship between FDI intensity of industries and Research and Development (R&D) expenditure of firms, which can be considered as a practical starting point for testing R&D spillover effects from FDI. There have rarely been studies that consider the spillover effects from inward FDI on R&D activities of domestic firms. The FDI spillover literature is mainly focusing on the relation between FDI in a host country and the productivity of host-country industries. In this stream of research, the determinants of productivity are the central concern and technological progress is usually measured as total factor productivity. This study provides an alternative approach by examining directly the FDI impact on R&D behaviour of firms and applies it to China's electronics and ICT industry (Chapter 7).

The ownership advantage of MNCs has been one of the cornerstones of the economic theory of FDI. However, competitive advantages of MNCs that stem from their entry strategies for foreign markets rather than from their ownership of proprietary assets are generally overlooked in the international business literature (Section 4.3 provides a more expansive view). In the traditional view, in addition, domestic firms only have inherent advantages associated with operating in their own environment. However, it should be recognised that competitive advantages of MNC affiliates may be eroded and domestic firms may develop their ownership advantages in the forms of proprietary assets as well. The process during which this takes place has not been conceptualised to capture the essence of this evolutionary path of industrial development. To overcome the gap, this study (Section 4.4) develops a model of industrial development in which the overall structure of an industry evolves up a ladder, which reflects in general the enhancement of the competitiveness of domestic firms. The processes of the endogenous industrial development without inward FDI and the exogenous industrial development with the 'catalysis' of inward FDI are compared. The model may facilitate the investigation of the interrelationships among MNCs, domestic firms and government policies. The functions of various policy instruments (as components of an integrated policy framework) at different stages of industrial development are illustrated in this model. The result of the 'multiple case' case study on China's electronics and ICT industry in general and the telecom equipment industry in particular (Chapter 7) presents a replication with which this model

can be considered robust and worthy of continued investigation and interpretation.

Methodology

To address both theoretical gaps and methodological problems faced by the research project, this study adopts an interdisciplinary approach. The problem with the traditional approaches is that they do not reveal in detail the nature of the dynamic process of industrial development. More importantly, the role and the nature of government policies and firm strategies remain largely overlooked. To overcome these problems, the study tries to establish a combination of two normally distinct disciplines: economics and business administration. Insights and inspiration have been drawn from a wide spectrum of disciplinaries such as industrial organisation, development economics, strategic management and international business. With regard to industrial dynamics, the strategies and practices of business firms should not be neglected when we examine the role played by the new competitive force from abroad for industrial development. Facing the intricacy of firm-level analysis and the missing links between the micro- and macro-level evidence, this study adopt a 'big business' approach following, for instance, Ruigrok and Van Tulder (1995). A research strategy is adopted thereafter to focus on large enterprises, both domestic and from abroad, rather than on small and medium-sized firms.

Contextualisation offers an opportunity for the further development of international business theory. The inherent characteristics of the 'Chinese context' provide insights for such development (Child and Tse, 2001). A deeper and more comprehensive understanding of the economic development process of China in the reform years provides a general ground for our specific study on FDI, competition and industrial development in China. Only by starting from a full picture at the macro level appropriate in-depth analyses at lower levels can be selected and conducted in order to get convincing evidence and provide valuable policy recommendations. That is why this study dedicates a long introductory part (Part I) to identify the inherent characteristics of the Chinese model of economic development, to set a research agenda to investigate the impact of FDI on competition and industrial development, and to address basic research strategies and methodological concerns. It is important for China researchers to situate their studies in the specific Chinese context. I do hope the introductory chapter (Chapter 1) can be useful for other economic and business studies on China and save time for other authors. A basic understanding of the Chinese model of economic development, based on comparative studies between China and countries with some similarity can always be considered as an 'infrastructure' for China studies.

The underlying premises of this study are that industrial development is multi-faceted, that inward FDI can influence industrial development through various channels, and that competition is one of the major channels through which FDI influences industrial development. Focusing on only one aspect of the process of industrial development may result in misleading conclusions and simplistic policy recommendations. Considering multiple dimensions of industrial development, the circumspect case study approach is particularly valuable because it is possible to combine qualitative and quantitative analysis in both an insightful and a comprehensive way. As this study focuses on the competition mechanism through which inward FDI impacts on industrial development, the relationship between FDI and competition is the central concern of this study. The models exploring a relation between FDI and competition have typically involved a cross-sectional equation with a measure of FDI as one of the determinants of concentration. This standard cross-sectional analysis aims to verify the association of FDI with market concentration. However, several critical problems exist with this approach. First, a cross-sectional study is

usually based on the standard industrial classification, which ignores the problem of 'relevant market'. Secondly, the cross-sectional studies use market concentration as a measure of competition and neglect the contestability of the markets and other crucial aspects that are associated with the nature of market competition. Thirdly, the cross-sectional approach cannot clearly define the causality or the direction of influence between the two variables. The case study approach can avoid these problems. Therefore a 'two-case' case study approach is adopted, supplemented by an overall assessment of the impact of FDI on China's industrial sector (Chapter 5). Eisenhardt (1989) emphasised the role of case studies in building theory and proposed a tactic to search cross-case patterns by selecting pairs of cases. The comparative 'two-case' empirical framework is integrally complemented with single- and multiple- case studies. The comparative case study concerns the general research question of this study while the within-case analyses tackle the detailed ones – for instance, what are the determines of market dominance of firms and what influence the R&D expenditure of them. The analysis of within-case data is mainly quantitative, utilising both cross-sectional and panel data econometrics to test hypotheses concerning the research question(s). Because the two case studies covers almost the entire history of a particular industry with FDI presence and utilising panel data econometrics, the methodology can be considered as a longitudinal case study at the industry level. The within-case data analysis is generally at the firm level.

Limitations

By focusing on several specific industries in one economy, this study risks criticism for the causal inference. This problem of generalisability first comes from the level-two inference, which describes the process of generalising from case study findings to theory (see Yin, 2003). The problem of generalisability faced by the within-case econometric study also comes from the level-one inference – the statistical sampling-based generalisability, which describes the process of generalising from a sample to population characteristics. Although a consistent pattern seems to emerge from a preliminary review of a large number of Chinese manufacturing industries, the performance consequence of government policies in other industries rather than these two relatively extreme cases is less clear-cut. It is, therefore, important to leave room for in-depth case studies on other industries, particular those that have a longer history of MNC presence. The theory emerging from both the comparative case study and the within-case analysis is testable. The validity of the theory needs replication and extension. If a dataset of a sample of a large amount of appropriately defined industries becomes available, econometric investigations could be conducted to explore the interrelationship between policy environment (degree of entry restrictions and trade barriers), degree of competition, inward FDI (degree of foreign presence) and industrial performance, thus testing the validity of the theory. This is one of the subsequent future studies planned by the SCOPE research team at the Rotterdam School of Management (Department of Business-Society Management). The SCOPE expert centre was established in 1997 under the overall supervision of Prof. Rob van Tulder. Parts of the SCOPE database have been constructed in close collaboration with the United Nations Conference on Trade and Development.

China provides a rather unique context due to its extremely large market size, its distinctive features of economic transition, its geopolitical importance and its unprecedented model of economic development. Therefore it is debatable whether the conclusions of this study are applicable to other developing countries. Further studies might examine industries in different developing countries and with different degrees of industrial dynamics. An international comparative approach is a sound strategy.

Comparison between relatively comparable countries such as the so-called BRIC countries (Brazil, Russia, India and China) seems the most practical. A recent comparative studies conducted by Mckinsey Global Institute (2003) on five industries in four major developing economies (Brazil, Mexico, China and India) is a notable effort. Repeating the 'core companies' research (conducted by the SCOPE research team) – and thereby making a distinction between foreign and domestic firms – for those countries seems a promising research venue. In case that these national studies can be complemented with an assessment of competitive situations at a global level in the relevant industries, a macro-micro link can not only be analytically established nationally, but also internationally. Consequently, the search for appropriate institutions at the national level needs complementary research after appropriate bilateral and multilateral institutional arrangements. In case that the Chinese (and Eastern Asian) example holds for other developing countries and transition economies, the multilateral trading system (WTO) needs to be supplemented by a multilateral agreement on competition. Whether this will be ever established remains highly uncertain, because all countries represent unique combinations of the institutions of trade, competition, industrial and technology policies. The search should not so much be after optimal institutions, but after appropriate institutions. In the case of China the latter seems to imply a particular combination of various policy instruments designed and implemented with sufficient considerations of both the particular Chinese context and the changing international environment. Researchers can hardly keep track of political and economic change. This provides an immense limitation to supporting relevant institution building at both national and international levels.

Acknowledgments

It is a delightful opportunity to thank the people who have helped in the preparation of this book. Prof. Rob van Tulder has been a wonderful Ph.D. adviser who has always supported me through some difficult times. He devoted enormous amounts of his time and intelligence and took great pains to help me to express my arguments clearly and in a more balanced manner even when, as was often the case, he disagreed with them. His relentless scepticism forced me to rethink many of my ideas; his inexhaustible enthusiasm persuaded me that it was worth doing so. His influence on this book could not be overstated. I thank Prof. Hans Schenk for his expert tutelage in the early stage of this thesis. I also thank Prof. John Dunning and Prof. Marno Verbeek for their comments on the empirical part of it.

I wish to express my thanks to colleagues and friends at the Rotterdam School of Management in general and the Business-Society Management Department in particular who have kindly provided advices or served as readers for particular parts of the thesis. I am particularly grateful to David Frans, Guillermo Baquero, Xueyuan Zhang, Yamei Hu, Fabienne Fortanier, Jeroen van Wijk, Robert Goedegebuure, Douglas van den Berghe, Arjen Mulder and Alan Muller. I thank Xiaoli Liu, Xiedong Shen, Sophie Su, Zhihua Wang and Tao Ma who have helped me in collecting data. I thank various Chinese government agencies for their cooperation. I thank Wilfred Mijnhardt and Liangliang Li for their contributions to the physical appearance of this book.

I wish to acknowledge the indispensable support from the China-Holland Education and Research Centre at Erasmus University Rotterdam. I thank Prof. Lammerts van Bueren, Ms. Weichia Tseng and Mr. Charles Zhao for their untiring help. I also acknowledge special subsidies provided by the Academy of International Business and the 'Hoogeschool Funds 1920'.

Finally, I reserve my most profound thanks to my parents, whose love and trust have blessed and supported me, and to my wife, who have scarified so much for my academic career and suffered long hours of neglect during the preparation of the thesis. She made me love it enough to offer her my first book. Without her I would not even have made it to writing these acknowledgements.

Abbreviations and acronyms

BAIC	Beijing Automobile Industry Corporation
CAAM	China Association of Automobile Manufacturers
CBRC	China Banking Regulatory Commission
CCP	Chinese Communist Party
CEE	Central and Eastern Europe
CIRC	China Insurance Regulatory Commission
CJV	Contractual Joint Venture
CKD	Complete Knock Down
CNAIC	China National Automotive Industry Corporation
COE	Collective-owned Enterprise
CSRC	China Securities Regulatory Commission
DMC	Dongfeng Motor Corporation
DOJ	Department of Justice
DSM	Deep Sub-Micron
DVD	Digital Versatile Disc
EBRD	European Bank for Reconstruction and Development
ECMR	European Council Merger Regulation
EEFSU	Eastern Europe and Former Soviet Union
EJV	Equity Joint Venture
FAW	First Auto Works
FDI	Foreign Direct Investment
FIE	Foreign Invested Enterprise
FTC	Federal Trade Commission
FTC	Fair Trade Commission
EVD	Enhanced Versatile Disc
FSU	Former Soviet Union
GAG	Guangzhou Automobile Group
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
HHI	Herfindahl-Hirschman Index
HRS	Household Registration System
ICN	International Competition Network
ICPAC	International Competition Policy Advisory Committee
ICT	Information and Communications Technology
IFC	International Finance Corporation
IJV	International Joint Venture

IPR	Intellectual Property Right
ISIC	International Standard Industrial Classification
ITU	International Telecommunication Union
IMF	International Monetary Fund
KFTC	Korea Fair Trade Commission
M&A	Merger and Acquisition
MEI	Ministry of Electronic Industry
MLAT	Mutual Legal Assistance Treaty
MII	Ministry of Information Industry
MITI	Ministry of International Trade and Industry (Japan)
MMI	Ministry of Machinery Industry
MNC	Multinational Corporation
MOC	Ministry of Commerce
MOFTEC	Ministry of Foreign Trade and Economic Cooperation
MOST	Ministry of Science and Technology
MRFTA	Monopoly Regulation and Fair Trade Act (South Korea)
NAFTA	North American Free Trade Agreement
NBSC	National Bureau of Statistics of China
NDRC	National Development and Reform Commission
NKE	National Key Enterprise
NIE	Newly Industrialize Economy
NPL	Non-performing Loan
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
PBOC	People's Bank of China
PC	Personal Computer
POE	Private-owned Enterprise
PPP	Purchasing Power Parity
R&D	Research and Development
RMB	Renminbi
SAIC	State Administration for Industry and Commerce
SAIC	Shanghai Automotive Industry Corporation
SAMI	State Administration of Machinery Industry
SAP	Structural Adjustment Program
SASAC	State-owned Assets Supervision and Administration Commission
SDPC	State Development Planning Commission
SETC	State Economic and Trade Commission
SEZ	Special Economic Zone
SIS	Sectoral Innovation System
SKD	Semi Knock Down
SMIC	Semiconductor Manufacturing International Corporation
SOCB	State-owned Commercial Bank
SOE	State-owned Enterprise
SPC	State Planning Commission
S&T	Science and Technology
TAIC	Tianjin Automotive Industrial Corporation
TFP	Total Factor Productivity

TRIM	Trade Related Investment Measure
TRIP	Trade-Related Intellectual Property Right
TVE	Township and Village Enterprise
UNCTAD	United Nations Conference on Trade and Development
UNCTC	United Nations Centre of Transnational Corporations
WAPI	Wireless Lan Authentication and Privacy Infrastructure
WFOE	Wholly Foreign-Owned Enterprise
WTO	World Trade Organisation

Part I Introduction

Since the beginning of its process of reform and openness in the late 1970s, China has transformed itself from a centrally planned economy into an emerging market economy. At the same time the Chinese economy achieved almost a 10 percent average annual growth rate. During the 1978-2000 period, China's per capita GDP more than quintupled and the living standard of Chinese people on average improved significantly – although serious inequalities still persist between parts of the population. Processes of economic change are always multidimensional. When industrialisation meets transition and internationalisation in China's reform era, however, it provides a particularly complicated environment for business operations and government policy-making. It, therefore, also provides a special context for economic and business studies. This introductory part aims at a comprehensive understanding of the specific context of the Chinese economy in the reform era. By identifying the inherent characteristics of the Chinese model of economic development, this part sets a research agenda to investigate the impact of inward Foreign Direct Investment (FDI) on competition and industrial development in China and to examine the policy implications of this impact. Basic research strategy and methodological concerns are presented in this part and the societal relevance of this study is highlighted.

China's prominent economic performance since 1978 could be partly attributed to the adoption of the development strategies previously successfully implemented by other countries, in particular Japan and the newly industrialised economies in East Asia. China not only shares some common (cultural, political and economic) features with its East Asian neighbours, but has also actively learned from the development experience of them. On the other hand, as a transition economy, China began its rapid economic growth at a very different starting point from that of its East Asian neighbours. China faced the unprecedented challenge of transforming a centrally planned economy into a market economy. The Chinese model of economic development is a hybrid form of strategies advocated by different streams of development thinking. China represents the 'openness driven' growth model pioneered by some East Asian economies, but to some extent goes even further. The Chinese model has been increasingly characterised by the collaboration between developmental state and Multinational Corporations (MNCs). China's FDI policies have been proactive, both at the central level and at the levels of province and city, thus facilitating a large amount of inward FDI, which presents a significantly different pattern from Japan and South Korea. Meanwhile, China followed the government-led development model of Japan and South Korea, in which industrial policy played a central role.

Competition plays a vital role in economic growth and structural transformation in China's reform period. To some extent, the process of transition is a process of introducing

competition – both domestic and international – into the economic system. The promotion and maintenance of competition were based on the function of relevant transitional institutions. While competition policy is widely recognised as a basic policy instrument to safeguard competition and is acknowledged as a necessary institution to support the market, a clearly defined formal competition policy is still lacking in China. After twenty years of rapid economic transition, China can be considered to have ample opportunities to continue its high growth performance in the coming years. Whether this growth potential can be realised largely depends on whether the institutional reform is able to keep pace with economic development. Although free trade and market entry have acted as a substitute for competition policy, there are critical concerns for the future of the Chinese economy: to what extent has the previous introduction of competition in the Chinese economy delivered positive effects; to what extent should competition be further maintained and promoted and can this be done by transitional institutions without a clearly defined formal competition policy, as has previously been the case?

Actively attracting FDI inflows is an integral element of the Chinese model of economic development. Aggregately, inward FDI has introduced a new competitive force into the Chinese economy and contributed to the development of China's private sector. At the industry level, however, the exact effects of inward FDI and particularly the presence of MNCs on market competition and industrial development remain unclear. What has been the role played by the new competitive force from abroad for industrial development? What has been the impact of FDI through the mechanism of competition rather than others such as spillovers and linkage? What are the policy implications of the FDI impact on competition and industrial development? FDI may deliver considerable benefits to industrial development. However, the potential costs should not be neglected. Furthermore, FDI cannot by itself promote long-term industrial development, which is largely dependent upon the well-functioning domestic markets. The traditional wisdom based on the experience of developing countries is that FDI can increase the contestability of domestic market at entry, but may also increase market concentration and lead to dominant positions as well as anticompetitive practices of MNCs after entry mainly by suppressing domestic firms. Does this hold true in the specific economic and industrial context in Chinese industries, which is characterised by the strong presence of a state sector and the prevalence of government intervention? The primary aim of this study is to examine FDI as an industrial phenomenon – how the introduction of a new competitive force through FDI inflows influences the development of Chinese industries. This study further seeks to illustrate the role of policy environment in determining the FDI effects on industrial development.

1 The Context

This introductory chapter presents a multi-dimensional analysis aimed at a deeper and more comprehensive understanding of the economic development process in China during the reform period. China's track record is compared to those of other transition economies and developing countries in order to come to an assessment of the uniqueness of the 'Chinese model' of economic development and to explain its relevance to the current theory and policy debate. This provides a general ground for our specific study on inward Foreign Direct Investment (FDI), competition and industrial development in China. Concurrent processes of transition, internationalisation and industrialisation took place over a relatively short period, providing a rather unique context to explore. As Toyne and Nigh (1998) suggested, contextualisation offers an opportunity for the further development of international business theory. The inherent characteristics of the 'Chinese context' provide insights for such development (Child and Tse, 2001). It is important for researchers to situate their economic studies in this particular context. What needs to be done, therefore, is to identify the inherent characteristics of the dynamic context of China in the reform era. Identifying the characteristics of the Chinese model of economic development is especially crucial to research projects on China in general and for this study in particular.

This chapter is organised as follows. Section 1.1 presents a general assessment of the economic performance of China during the reform period. This section also provides a basic framework to analyse economic development process in China – which is characterised by the coexistence and co-evolution of processes of transition, internationalisation and industrialisation. Based upon this analytical framework, the next three sections examine the processes of transition, internationalisation and industrialisation respectively. A comparative approach is adopted to identify the inherent characteristics of the Chinese context. In Section 1.2, China is compared with other transition economies in Central and Eastern Europe and the former Soviet Union with regard to the process and performance of economic transition. In Section 1.3 and Section 1.4 the processes of internationalisation and industrialisation of China is compared with those of other developing countries, in particular some East Asian economies (the 'East Asian Miracle' as put forward by the World Bank). In the last section of this chapter, Section 1.5, concluding remarks are made addressing the question whether the Chinese model of economic development is unique or China is merely a follower of the best practices. The defining elements of the Chinese model are identified.

1.1 The Economic Performance of China in the Reform Era: A Miracle in the Making?

1978 saw a watershed in the history of the People's Republic of China, dividing two

continuous but distinguished phases: Mao's China and after. With strong ideological and totalitarian characteristics, Mao Zedong and the Chinese Communist Party (CCP) transformed a traditional China into a state-centred socialist nation in which the Party State dominated all sections of the society. An agricultural economy was moulded into a Soviet-style central-planning economic system. In 1978, an epochal Party congress – The Third Plenum of the Eleventh Congress – shifted the emphasis from the ideological 'Class Struggle' to a more pragmatic notion of 'Economic Construction'. Mao's era ended, leaving an underdeveloped China with an absolutist ideology as the outset of the reform. In the reform era, China transformed itself from a centrally planned economy to an emerging market economy and at the same time achieved the highest economic growth rate in the world. With an average Gross Domestic Product (GDP) growth rate of 9.52 percent between 1980 and 2000, China ranked highest in all the countries and territories in the world (see Table 1-1).

Table 1-1 Top 10 in GDP growth, 1980-2000

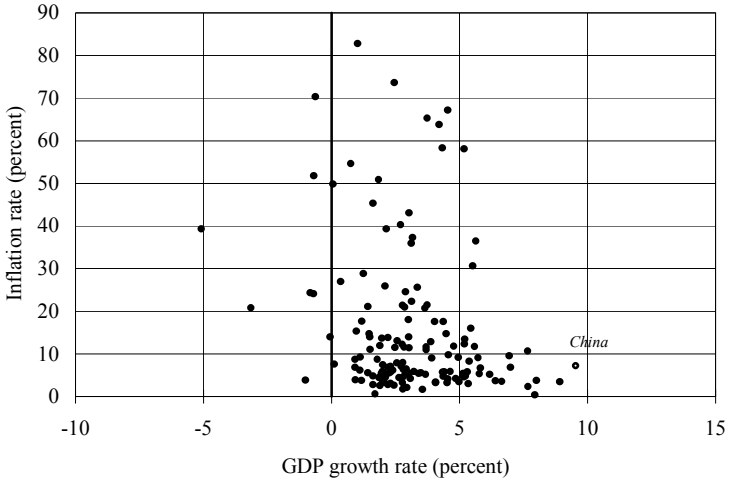
Rank	*Country*	*Annual GDP growth rate (percent)*	*Notes*
1	Equatorial Guinea*	14.84	86-00
2	China	9.52	
3	Maldives*	8.92	85-00
4	Aruba*	8.00	88-94
5	Oman*	7.94	80-95
6	Singapore	7.67	
7	Botswana	7.65	
8	South Korea	6.98	
9	Bhutan*	6.94	81-00
10	Malaysia	6.64	

Source: World Bank.
Note: * No complete data from 1980 to 2000; the actual years considered is indicated in the notes.

Meanwhile, China to some extent avoided a macroeconomic problem that is normally attached to periods of rapid growth – high inflation. South Korea, for instance, achieved a high economic growth rate during the 1960s and 1970s at the cost of high inflation – wholesale price increased 18 percent annually from 1972 to 1979 and 12 percent annually between 1962 and 1971.[1] Figure 1-1 illustrates the average of annual GDP growth rates and inflation rates of countries and territories for the 1980-2000 period.[2] It provides a clear view of the – literally – 'outstanding' macroeconomic performance of the Chinese economy during the reform period.

[1] According to Stern *et al.* (1995).
[2] Totally includes 144 countries and territories. The countries and territories with the averaged inflation rate beyond 90 percent are not included.

Figure 1-1 Average annual GDP growth rate and inflation rate, 1980-2000



Source: World Bank.

Despite the rapid economic growth, China still remains a developing country with GDP per capita of 824 US$ in 2000 measured in official exchange rate and of 3976 US$ measured in terms of Purchasing Power Parity (PPP). The same numbers in 1980 were 168 US$ and 464 US$ respectively.[3] Based upon both measures of GDP, the growth of GDP per capita of China ranked first in all countries and territories (see Table 1-2). In the beginning years of the new millennium, China was able to sustain its fast pace of economic growth. GDP per capita increased to 1090 US$ in 2003.[4] If measured in terms of PPP, GDP per capita was approaching US$ 5000. With respect to the demographic scale of China – with a population of over 1.2 billion – these growth rates of GDP per capita can indeed be considered exceptional.[5] Although it can be considered as a 'Chinese Miracle' of economic growth, China's economic expansion in recent decades still does not yet

[3] GDP per capita data is according to the World Bank.
[4] According to the NBSC.
[5] The accuracy and reliability of China's GDP statistics have been questioned. Rawski (2001), for instance, suggested that the figure on China's GDP growth since 1998 was doubtful. This pessimistic view, which drew wide attention from the media in recent years, was mainly based on the argument that there was inconsistency between GDP growth rates and variables such as energy consumption and freight transportation. It was argued that a 'great wind of falsification and embellishment' resulted in distortion of data and a statistical bubble. However, as argued by Rawski (2001), China's pre-1998 growth figures 'were in the ballpark, although it may have been a large ballpark'. Other scholars, such as Holz (2002), suggested that China's statistical system, while far from perfect, was systematically improving and that the official GDP growth rate was reasonably reliable. Some scholars pointed out that Chinese statistics underestimated by a wide margin due to the fact that most of the low-ball estimates ignored the service sector. In 2003, the newly emerged discrepancy between GDP growth rates and energy consumption led to a new round of scepticism but in the other direction – the manipulated GDP growth figure lower than the actual level.

match that of post-war Japan[6] and South Korea.

Table 1-2 Top 10 in GDP per capita growth, 1980-2000

PPP (current international $)					*Current US$*				
Rank	*Country*	*1980*	*2000*	*Growth (percent)*	*Rank*	*Country*	*1980*	*2000*	*Growth (percent)*
1	China	464	3,976	756.90	1	China	168	824	391.59
2	South Korea	3,037	17,380	472.28	2	South Korea	3,910	13,062	234.05
3	Ireland	5,841	29,866	411.32	3	St. Kitts and Nevis	2,555	6,830	167.32
4	St. Kitts and Nevis	2,447	12,510	411.24	4	Singapore	11,048	28,230	155.51
5	Luxembourg	10,964	50,061	356.59	5	Ireland	10,894	27,741	154.63
6	Thailand	1,476	6,402	333.74	6	Thailand	1,117	2,805	151.09
7	Malta	4,067	17,273	324.71	7	Mauritius	1,802	4,429	145.77
8	Grenada	1,809	7,580	319.02	8	Botswana	1,678	3,951	135.41
9	Mauritius	2,403	10,017	316.85	9	Bhutan	232	532	129.72
10	Antigua and Barbuda	2,612	10,541	303.56	10	Luxembourg	24,832	56,372	127.01

Source: World Bank.

China and India – the two most populous countries in the world – contained 38 percent of the world's population in 2000. The economies of both countries performed well, but China has been doing better on most accounts of economic development (see Table 1-3 for examples). In 1980, the per capita GDP of China was 27 percent lower than that of India. Twenty years later, the per capita GDP of China is 79 percent higher than that of India. China's superior economic growth and increasing openness (see Section 1.3) has made it far more significant to the world economy than India. At the end of 2003, China eclipsed Japan on a monthly basis to become the world's third largest trader, while India was around 30th.[7] Another comparison between China and Russia also illustrates the high performance of China's economic growth. Both countries entered a transition process from a planed to a market economy in a comparable time frame, but China achieved sustained economic growth, while Russia suffered a major economic collapse. In total GDP terms, in 1990 China was 27 percent smaller than Russia but ten years later China was 189 percent bigger than Russia (see Table 1-3). Even the life expectancy – which started at comparable levels – in the two countries diverged considerably.

[6] See Wolf, 'The long march to prosperity: why China can maintain its explosive rate of growth for another two decades', *Financial Times*, December 9, 2003. In the period 1950-1973, Japan's manufacturing production rose about 13 percent annually and GDP at 10 percent a year. In the same period, Japan's share in world exports of manufacture rose by 10 percentage points.

[7] India was the world's 30th largest merchandise exporter in 2001 (see Wolf and Luce, 'India's slowing growth: why a hobbled economy cannot meet the country's needs', *Financial Times* April 4, 2003).

Table 1-3 Development performance 1980-2000: China, India and Russia

Country	*China*			*India*			*Russia*		
Year	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*
GDP (US$ billion) *	163.6	397.6	1,041.2	156.7	275.2	467.3	439.5	543.7	359.6
GDP, PPP	420.7	1,474.4	4,724.2	528.7	1,361.4	2,772.7	/	1,186.6	983.9
GDP per capita (US$) *	166.7	350.3	824.8	228.0	323.9	459.9	3,161.5	3,666.1	2,470.8
GDP per capita, PPP	430.0	1,300.0	3,740.0	770.0	1,600.0	2,730.0	/	8,000.0	6,760.0
Illiteracy rate	32.9	21.7	14.8	59.0	50.7	42.8	1.2	0.8	0.4
Life expectancy at birth (years)	66.8	68.9	70.3	54.2	59.1	62.8	67.1	68.9	65.3
Population (millions)	981.2	1,135.2	1,262.5	687.3	849.5	1,015.9	139.0	148.3	145.6

Source: World Bank.
Note: * Constant 1995 US$.

How and to what extent do economists understand this 'Miracle'? What can we learn from this? There are two main streams of explanations for the 'Chinese Miracle'. One stream explains the miracle with the conventional wisdom in economics. It contends that China's good economic performance since 1978 is caused by the same factors behind other successful development stories, in particular the rapid growth of the East Asian economies. In this view, China has learned from other countries. The other stream emphasises China's economic exceptionalism. It claims that China's success is the result of an experimentation that fostered the emergence of new institutional forms and development strategies that have promoted growth. In this view, other countries could possibly learn from the 'lessons from China'.

Numerous theoretical and empirical studies have found that economic growth is determined by a broad spectrum of factors.[8] Harrod made the first major contribution to aggregate growth theory. The Harrod-Domar analysis leads to concentration on savings and investment as the determinants of economic growth. These aggregate growth models were extended in the 1950s and 1960s with Solow playing a leading role. In the neoclassical framework pioneered by Solow (1956), the rate of economic growth is determined by the rate of accumulation of capital and labour and by exogenous technological progress.[9] The standard growth accounting approach uses regression analysis to isolate and quantify contributions to economic growth. This approach has been widely applied in the literature to decompose the growth rate of aggregate output into contributions from the growth of capital and labour inputs and technological progress and other factors. Following this approach, researchers explored the sources of China's economic growth, which have become the subject of an ongoing debate focusing on whether China's growth during the reform period is driven principally by factor accumulation or by Total Factor Productivity (TFP) growth. Many researchers argued that the productivity growth has played a significant positive role (Chow, 1993; Borensztein and Ostry, 1996; Hu and Khan, 1997; Wang and Yao, 2002). On the other side, Krugman (1994b) argued that, as other East Asian economies, China depended heavily on a massive

[8] The vast literature on growth theory generally falls into three groups: the early post-Keynesian growth models (the Harrod-Domar model and its variants), the neoclassical models (the Solow model and its variants), and the more recent endogenous (new) growth models (Romer-Lucas type models).

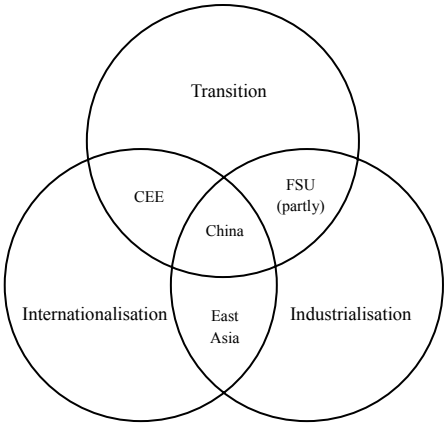
[9] Beginning with Solow, the dominant paradigm in the development economics for several decades has been one of inter-country convergence. This fundamental model in neoclassical tradition has led to an explosion of literature, largely empirical, on the subject. By the law of diminishing returns to inputs, poor countries in which capital is scarce should exhibit higher rates of return to capital. Consequently, assuming that savings and fertility rates are the same across countries, per capita incomes in poor countries should grow faster, and eventually living standards in all countries converge.

increase in input with only small improvement in productivity. Young (2000) claimed that the productivity performance of China's non-agricultural sector during the reform period was moderate and the productivity growth only accounted for an insignificant proportion of economic growth. Other studies on industrial TFP presented evidence of substantial TFP growth during the reform period (Chen *et al.*, 1988; Jefferson *et al.*, 1996). Based upon the endogenous growth theory, an economy-wide study conducted by Wu (2000) suggested that China's economic growth in the 1980s was principally due to efficiency improvement and growth in inputs, while technological progress became a major factor in the 1990s.

The growth accounting analyses provide only a simple decomposition of output growth into its sources, without explaining through what mechanism these changes took place. It is important to go beyond growth accounting, which is incapable to be a practical guide to policies, to provide convincing explanations for China's rapid economic growth. From the perspective of both the traditional development economics and recent developments in endogenous growth theory, the basic steady state properties of the Solow model are unsatisfactory. This approach generates a particular set of attitudes towards economic policy by stressing the role of factors, such as savings and population growth, which might actually be symptoms rather than causes of under-development. They direct policy concerns in superficial and often wrong directions, missing deeper sources of the problem (Mookherjee and Ray, 1999). A series of major structural changes have had a profound impact on the Chinese economy in the reform era. Among them, two aspects of structural changes have provided major impetus for China's rapid development since 1978: the reform and openness, or denominated differently, transition and internationalisation. Through these two structural changes, the Chinese economy has evolved from a centrally planned to a market-oriented economy and from a closed to an open economy. At the same time, China experienced a rapid process of industrialisation. When industrialisation meets transition and internationalisation, it becomes rather complicated to identify the sources of economic growth. Nevertheless, it seems that China has utilised these potential sources of economic growth particularly well and achieved relatively successful economic development.

The processes of transition, internationalisation and industrialisation deepened simultaneously in a relatively short period of time. The three processes interacted with each other and experienced a process of co-evolution. The coexistence/co-evolution of transition, internationalisation and industrialisation presents the basic ingredient for the uniqueness of the Chinese context. It has specific implications for business operations and government policy-making. As a transition economy, China shares some similarities with other transition economies in Central and Eastern Europe (CEE) and Former Soviet Union (FSU), but it has had a different transition process and performance. On the other hand, with a rapid process of internationalisation and industrialisation, China looks more like its East Asian neighbours, following a similar model of economic development, but with strong characteristics associated with China's particular economic structure and policy orientation. It seems that China's occupies a rather unique position as a development model. Figure 1-2 illustrates a basic framework for understanding the Chinese context and seeks to position the Chinese development model *vis-à-vis* other economies, particularly transition economies and East Asian countries. The next sections will elaborate these preliminary arguments, in order to further assess the uniqueness of the Chinese context and development model.

Figure 1-2 Transition, internationalisation and industrialisation



The complex and dynamic nature of this mixture of transition, internationalisation and industrialisation provides a unique context for relevant economics and business research. The understanding of this context requires deep insights into the process of economic change in over 20 years, looking from manifold perspectives. The understanding of the interaction/co-evolution of transition, internationalisation and industrialisation provides an additional analytical challenge due to their mutual interaction and impact. The experience of some other transition economies demonstrates that without carefully planning and proper strategy implementation, the transition process could lead to economic and social disaster, severely jeopardising the potential positive effects of economic internationalisation. Careful methodological considerations are crucial to face the challenges. First, an inter-disciplinary approach is needed. Many ideas can be borrowed from international economics, industrial organisation and new institutional economics. Secondly, to avoid the typical problem of getting general conclusions from a specific case study, comparative studies between China and countries with some similarity are required. The analytical and detailed study of a particular country or a group of countries is a practical way to learn about the nature of economic development and the processes of it. Compared with a cross-country regression, this approach is more time-consuming but yields deeper insights (Stern, 1989). The problem is that a few examples may be misleading when drawing general conclusions. Thus, in the next three sections, China's track record will be compared to two particular groups of countries that China can be considered to belong to – the transition economies and the East Asian countries.

1.2 China's Economic Transition: A Comparison

The 20th century witnessed two great economic and social experiments: the socialist experiment that began, in its more extreme form, in the former Soviet Union in 1917; and the experiment moving back from a centrally planned economy to a market economy. The latter, the economic transition, has been suggested as one of the most important

experiments in economics ever occurred – a massive and relatively sudden change in the rules of the game in economies.[10] The principle feature of the transition process is institutional change. Institutions are the rules of the game in the society and they affect economic performance by determining the cost of transacting and producing (North, 1990). The institutional defects of central planning stem from the lack of incentives[11], competition[12], price mechanism[13], hard budget constraints[14] and decentralised decision-making.[15] These institutional defects could seriously affect economic performance and were among the key determinants of the failure of the socialist experiment.[16] The defining characteristic of the 'transition economies' has been their decision to abandon central planning as the principle mechanism of resource allocation and to move to market-oriented economies with private ownership of the means of production. The countries referred as 'transition economies' comprise 31 countries in Europe and Asia (see Table 1-4). Transition economies can be classified into four groups: 1) EU accession countries[17], 2) other Eastern European countries, 3) FSU countries (not including Baltic countries that are included in the first group), 4) East Asian transitional countries. The first three groups totally include 27 transition economies in (Central and) Eastern Europe and Former Soviet Union (EEFSU).

[10] See Stiglitz, 'Whither reform? Ten years of the transition', World Bank, Annual Bank Conference on Development Economics, 1999.

[11] According to Hayek (1948), the practical feasibility of socialism is not only a purely technical issues; it was a political-economic problem tied to the nature of the motivations and incentives of individuals and organisations. See Chapter 1 of Laffont and Martimort (2002) for a survey of incentives in economic thoughts.

[12] Central planning eliminates rivalry among economic agents – rivalry that is a dynamic form of competition distinct from the static notion of competition in the neoclassical economics (Lavoie, 1985).

[13] The price mechanism includes: 1) a demand –and-supply driven system of prices determination, 2) price responsiveness of firms. Both are lack in the centrally planned economy. The phenomenon of the price system has been the focus of the economic study since the classical economists such as Smith, Ricardo and Mill.

[14] A term coined by Kornai (1986b) when investigating the nature of the planned economy. The term was widely used in the analysis of economic systems. See Dewatripont *et al.* (1996), Maskin (1996) and Qian (1998) for surveys. In Kornai's view, the budgetary constraints facing the socialist firms are 'soft' because the firms' survival and growth are not dependent upon its financial performance.

[15] Hayek's works on the socialist economy provides the early sources with which to address the problems of centralisation and decentralisation. The issue of centralisation and decentralisation has traditionally coincided to a large extent with the analysis of the relation between central planning and the market. However, there are other approached to the effects of differing degrees of decision distribution in the economy (Dallago and Mittone, 1996). According to Demsetz (1982a), the problem central to the interests of the classical economists was the nature and consequences of decentralisation. Demsetz argued, furthermore, that the perfect competition model could be seen as a tool for understanding both the price system and decentralisation.

[16] See Nee and Stark (1989) for a discussion of the economic institutions of centrally planned economies.

[17] Since May 1, 2004, these 10 countries have become formal members of the European Union.

Table 1-4 Transition economies

Transition economy/group	*Year transition began*	*Real output ratio 1999/1989*	*Average inflation 1989–99*	*1999 Average transition indicator*	*PPP GDP per capita 1999*
EU accession countries	1990	0.87	34.9	3.3	9,062
Bulgaria	1991	0.67	68.4	2.9	4,812
Czech Republic	1991	0.94	7.8	3.4	13,408
Hungary	1990	0.99	19.7	3.7	11,273
Poland	1990	1.28	49.2	3.5	8,832
Romania	1991	0.74	76.1	2.8	5,798
Slovak Republic	1991	1.01	14.3	3.3	10,255
Slovenia	1990	1.05	12.9	3.3	15,685
Estonia	1992	0.78	24.3	3.5	7,909
Latvia	1992	0.56	35.1	3.1	5,893
Lithuania	1992	0.70	41.0	3.1	6,750
Other South Eastern European countries	1990	0.77	3,331.8	2.5	3,651
Albania	1991	0.93	33.4	2.5	2,897
Bosnia and Herzegovina	/	0.93	13,118.0	1.8	1,014
Croatia	1990	0.80	100.0	3.0	6,793
Macedonia, FYR	1990	0.59	75.6	2.8	3,903
Former Soviet Union countries*	1992	0.53	149.1	2.3	3,337
Armenia	1992	0.48	106.5	2.7	2,469
Azerbaijan	1992	0.47	233.2	2.2	2,404
Belarus	1992	0.81	162.4	1.5	6,485
Georgia	1992	0.31	17.9	2.5	3,950
Kazakhstan	1992	0.61	77.3	2.7	4,351
Kyrgyz Republic	1992	0.61	22.3	2.8	2,419
Moldova	1992	0.31	16.5	2.8	1,847
Mongolia	1990	0.93	46.5	2.8	1,573
Russia	1992	0.55	88.0	2.5	6,815
Tajikistan	1992	0.29	688.5	2.0	1,045
Turkmenistan	1992	0.61	4.9	1.4	4,589
Ukraine	1992	0.35	169.4	2.4	3,276
Uzbekistan	1992	0.97	304.5	2.1	2,157
East Asian countries	1986	1.78	17.1	2.1	2,042
Cambodia	1990	1.62	6.3	2.5	1,261
China	1978	2.52	8.1	2.1	3,709
Lao P.D.R.	1986	1.85	28.6	1.8	1,385
Vietnam	1986	1.97	25.4	1.9	1,815

Source: European Bank for Reconstruction and Development (EBRD) and International Monetary Fund (IMF).
Note: 1) Data for country groups are simple averages of group member data. 2) * Not including Baltic countries.

In the four groups of transition economies, four East Asian countries, including Cambodia, China, Lao and Vietnam, outperformed other groups on output growth and macroeconomic stability (in terms of inflation rate). Within this group, China is particularly prominent. Compared to all other transition economies, China presents a unique case in both the process and the performance of economic transition. In its two-decade economic transition, China has been undergoing highly dynamic and profound institutional changes. These changes unleashed the fundamental forces of incentives, competition, price mechanism, hard budget constraints and decentralised decision-making. But the path of transition China took was unusual and many institutional forms were not the same as the conventional best-practice institutions from the perspective of the mainstream economic theories (Qian, 2000b).

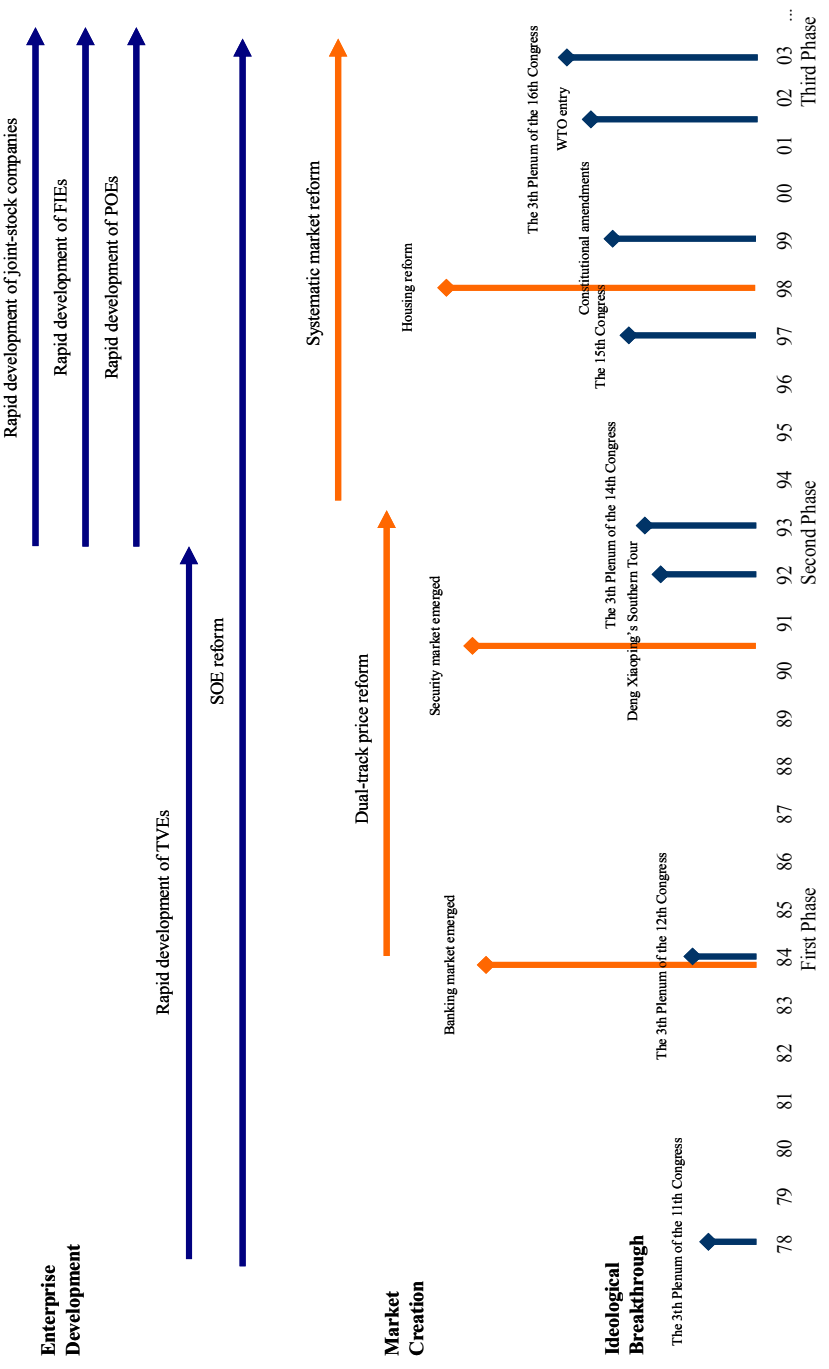
1.2.1 The Process of China's Economic Transition

Both China and EEFSU countries experienced a two-stage process moving from a centrally planned system to the direction of a market system (Qian, 2000a). The first stage was characterised by partial reforms aiming at supplementing the central planning with the market. In EEFSU countries, reforms started as early as 1952 in Yugoslav, 1968 in Hungary, 1980 in Poland and 1985 in the former Soviet Union.[18] The reforms aimed at the 'correct' combination of market and central planning, which the reformers believed to be the most efficient governance structure for socialist economies (Stark and Nee, 1989). However, partial reforms both perpetuated problems of the pre-reform economy and created new distortions and imbalance (Stark and Nee, 1989). Consequently, the reforms before 1990 generally ended up in failure (Kornai, 1986a, 1992). This failure led Kornai (1992) to conclude that 'in spite of generating a whole series of favourable changes, reform is doomed to fail' and 'the system is incapable of stepping away from its own shadow.' This failure eventually spurred a political revolution followed by a more radical transition to a market system. The 'big bang' approach of transition in many EEFSU countries after 1990 can be considered as a response to earlier unsuccessful economic reforms. The Chinese experience seems to change the claim that partial reform is doomed to fail. In China, reform was initiated in the late 1970s. China differed from the EEFSU transition economies in that its first stage reform in the 1980s was relatively successful. The first phase transition eliminated shortages, generated high economic growth and improved people's living standards on average. However, the partial reform did result in serious problems such as the corruption and severe inflation. These problems contributed substantially to the political and social instability in the late 1980s. After the suppression of political upheaval in June 1989, the momentum of reform was counterbalanced by the ideological retrogress and the deterioration of outside environment due to international sanction. After three years of stagnation, China resumed its 'Great Leap' towards a market economy in 1992. The new stage of reform afterwards was equivalent to the transition in EEFSU countries in the 1990s. In contrast to the big-bang approach widely adopted the EEFSU transition economies, China's market-oriented reform in this stage represented an alternative pattern, usually portrayed as a gradual and experimental process. Unlike the first phase of reform, which ended in uproar and violence, the economic transition in the 1990s evolved relatively fluently without a political revolution and serious social disorder.

The process of China's transition to market economy can be portrayed as a gradual and experimental process, or in Deng Xiaoping's phrase: 'crossing the river by groping for stones'. This process can be viewed as an evolutionary process in three phases. The first phase spanned fourteen years between 1978 and 1991; the second phase began in 1992; and the third phase began in 2002. Despite the continuity, the division between phases is apparent. Deng's 'Southern Visitation' in early 1992 and the significant ideological breakthrough occurred afterwards marked the turning point between the first and second phase. China's entry to the World Trade Organisation (WTO) presents a watershed between the second and third phase. This three-phase model is illustrated in Figure 1-3.

[18] The Yugoslav self-management model and the Hungarian 'new economic mechanism' provided examples for the theoretical concept of market socialism, in which the means of production are publicly or collectively owned, and the allocation of resources follows the rules of the market.

Figure 1-3 Process of China's economic transition



In the first stage, the basic institutional framework of central planning remained intact and the goal of reform was still not a market economy. Starting with agricultural reforms, market-oriented measures were then extended to cities and the industrial sector in 1984. Economic reform was carried out incrementally to improve incentives, to promote competition, to liberate prices, to harden budget constraints, to decentralise decision-making and to expand the scope of market-based (rather than centrally planned) allocation for resources. In this phase of economic transition, the Chinese government implemented a price reform, adopting a so-called 'dual-track' approach (see Subsection 2.1.1 for details), which demonstrated how markets could grow out of plans (Byrd, 1991; Naughton, 1995). This phase of economic transition achieved significant economic success despite the serious problems in later years. The significance of this early success can be well understood when compared with the reforms in EEFSU countries before 1990, the failure of which spurred a political revolution. From a perspective of political economics, the economic achievement in the first phase of transition weakened the resistance towards further reforms and built up the confidence and commitment of reformers. In fact, reform did not stop even during the 1989-1991 period when the conservatives gained the upper hands.

The second stage of economic transition began with Deng's 'Southern Visitation' in the spring of 1992 to neutralise central resistance and mobilise local support for further and more radical reforms. In the Party congress of November 1993, Deng's ideological breakthrough to abolish the planning system and establish a modern market system was formally endorsed. Creating a 'socialist market economy' in which market mechanism would play the primary role in resource allocation was set as the goal of the reform. Since then, China carried out several radical reforms in line with the November 1993 decision. Major reforms included the unification of exchange rates, current account convertibility, the reform of tax and fiscal systems, the reorganisation of financial regulatory system, the adoption of Western accounting rules and the establishment of a social security system. China also started to privatise collectively owned and small and medium-sized State-owned Enterprises (SOEs) and to lay off excess state employees (see Subsection 2.1.3 for details). This phase of economic transition is comparable to that in the CEE countries after 1990 and in the FSU countries after 1992, although the political and economic context leading to such reforms was different. In all the EEFSU countries, economic transition began after political democratisation, while China began comprehensive transition toward a market economy without such a political reform.

The third stage commenced with China's WTO entry in December 2001. As a particularly crucial external factor, China's accession to the WTO provided an important and timely impetus for China's transition to a market economy and made the prospect of China's economic transition clearer. The WTO membership provided China with the rule of law within a multilateral framework. In order to fit into this framework and benefit from it, China is strongly stimulated to expedite its transition to a full-fledged market system. China's accession to the WTO provides strong external impulses for further domestic reforms and is bound to change the domestic political balance in favour of further and faster reforms. 2002 also became the first year of the government by the 'fourth generation' of Chinese leaders. In the Third Plenum of the Sixteenth Congress in October 2003, a series of reforms were planned, many of them with a long-term horizon. Their aims are to complete China's transition to a market economy and to achieve comprehensive, balanced and sustainable growth in such a manner that improves the quality of life for 1.3 billion Chinese people. According to the plan, thorough reforms in different areas will be implemented at various speeds over the next decade.

1.2.2 A Comparative Assessment of Transition Performance

Ten years after the beginning of the transition in EEFSU since the early 1990s[19], a profound divide lies between two groups of countries as to the performance of economic transition. One group of transition economies comprises the 10 new members of the European Union, i.e. the Central and East European countries (including the Baltic countries). Within this group, structural transformation is still fragmentary, but macro-economic stabilisation has been achieved and growth resumed. The other group mainly consists of the countries of the FSU and the former Yugoslavia. In these countries, transition has been counteracted by the heavy legacies of communist system and by the pernicious effects of political instability. Within this group, market institutions do not function well, stabilisation is not yet completed and the prospects for growth remain quite uncertain.[20]

Despite the discrepancy in the performance of transition between these two groups of countries, virtually all transition economies in EEFSU suffered from a more or less severe 'transformational recession' (Kornai, 1993), or 'transitional recession' (Kolodko, 2000). The collapse of output in the early years of transition was exceeding even the worst expectations.[21] In 1998, one in five people in the region survived on less than a standard poverty line of US$ 2.15 a day. A decade ago, fewer than one in 25 people lived in such absolute poverty. Although absolute income deprivation at this level is virtually non-existent in many CEE countries, it is a very common phenomenon in the FSU countries. Inequality, which has barely increased in the CEE countries since the beginning of transition, has increased so much in some FSU countries such as Armenia, the Kyrgyz Republic and Russia that they have become the most unequal countries in the world (cf. International Bank for Reconstruction and Development and World Bank, 2002).

There are different explanations of the 'transitional recession' and many of them attribute this to the lack of proper market institutions. This led to a rethink of the so-called 'Washington Consensus', a term coined by John Williamson (1990, 1993, 1997) to describe the set of policy proposals to address Latin America's debt crises in the 1980s.[22] The 'Washington Consensus' is generally seen as the expression of the neoclassical mainstream school, either in the form of original Williamson's agenda for structural adjustment or in its stronger version advocated by the IMF and other international institutions. The negative outlook of the transition process in the EEFSU countries, which followed the policy advice based on the 'Washington Consensus', severely challenged the wisdom of this 'consensus'.[23] The challenge even came from an 'insider' as far as

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[19] There have been many conferences, special issues in journals, as well as books, reports, and articles in newspapers on the topic 'ten years of transition'. Perhaps the most comprehensive surveys are those by the EBRD (1999) and the United Nations Economic Commission for Europe (UNECE, 2000).

[20] Some countries in the second group, such as Russia, did witness high economic growth since the late 1990s. The Russian economy quickly restored stability after the 1998 financial crisis, productivity increased rapidly, and GDP has been growing by 7 percent a year. However, this sound economic performance has frequently been linked to the rise of oil prices, making it largely a consequence of exogenous factors.

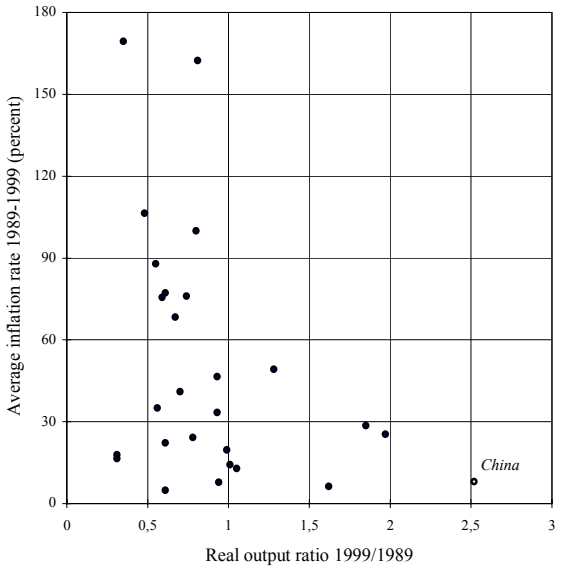
[21] See Lavigne (1999) for references and a comment of the discussion.

[22] John Williamson proposed a list of ingredients for a recipe for structural adjustment and development in Latin America. According to Williamson the recipe was 'generally applicable' elsewhere, and universally agreed upon in Washington (i.e. by senior members of the US administration and Congress, the Federal Reserve, the international financial institutions, and the think-tanks). This policy advice has been applied mainly through the IMF and the World Bank to the transition economies.

[23] See Gore (2000) for a detailed discussion on the rise and fall of the Washington Consensus as a paradigm for

international financial organisations are concerned – Joseph Stiglitz, the former chief economist at the World Bank, who voiced fiercer critics against the policy proposed by the IMF.[24] In contrast to most other transition economies that suffered painful transition costs, China attained a uniquely high and sustained positive performance during its economic transition. There is also argument that the transitional economies of Asia as a whole (except Mongolia) outperform their counterparts in EEFSU (see Rana, 1995, for example). Figure 1-4 illustrates a simple performance measurement framework for transition economies.[25]

Figure 1-4 Economic performance of transition economies, 1989-1999



Source: EBRD and IMF.

The key economic objectives of transition are to raise economic efficiency and promote growth. Despite the similarity of ultimate objectives and basic elements of changes required, countries' actual transition experience differed substantially, with respect to both policies implemented and results achieved. The reasons for the differences include the country's initial condition, the external environment and the specific strategy and process pursued during the transition. The differences of initial conditions, processes and outcome of economic transition between China and the EEFSU countries are generalised in Table 1-5. This also presents a summary of two main models of economic transition – the gradualist approach adopted by China and other East Asian transition economies versus the

development.

[24] See Stiglitz, 'The insider: what I learned at the world economic crisis', *The New Republic*, April 17, 2000.

[25] Countries listed in Table 1-5, excluding the economies that have average annual inflation rates over 180 percent.

big-bang (shock therapy) approach adopted by the EEFSU countries.

Table 1-5 Economic transition: differences between EEFSU countries and China

Item		*EEFSU countries*	*China*
Path		Big-bang approach Democratisation → Economic Liberalisation → Privatisation	Gradualist approach – Without multiparty democratic reform – Liberalisation proceeded gradually – Privatisation delayed
Initial condition	Development level	High level of industrialisation	Low level of industrialisation
	Planning system	Centralised planning system with a large number of commodities subject to the central government's plan allocation	Planning after administrative decentralisation with a relatively small number of commodities subject to the central government's plan allocation
	Industrial structure	– Concentrated industrial system – Few small enterprises	– More than half of the industrial output came from enterprises controlled by local governments (in 1978) – Importance of local state-owned small firms (mostly in agriculture-related industries)
Process	First stage	Started in as early as 1968 in Hungary, 1980 in Poland and 1985 in the former Soviet Union	– Started in 1978 – Incremental reform introducing dramatic changes outside the central planning – Market created by a 'dual-track' price reform – The rapid rise of a non-state sector – Gradualist SOE reform aiming at providing autonomy and incentives
	Second stage	Started in 1990 (for different countries, see Table 1-4)	– Started in 1992 – Establishment the goal for a market system – A series institutional reform launched to build up a modern market system – Privatisation of SOEs introduced
Outcome	Economic development	– Painful transitional recession – Poor economic performance with high inflation rate and sharply decreased industrial output – Living standard on average significantly decreased.	– Total industrial output grew at an annual rate of 14.65 percent between 1978 and 1999 compared to an average GDP growth rate of 9.64 percent – Living standard on average significantly improved.
	Market system	– Market system established by a radical approach – Formal institutions built up quickly but informal institutions neglected	– Market system establishes by a gradualist approach – Market-supporting institutions built up sequentially
	Firm ownership	From totally state owned to totally private owned	A diversified ownership structure emerged and the state sector accounted for less than 30 percent of industrial output.

The shock therapies promoted by the adherents of the neoliberalism[26] became severely questioned by researchers, who based their arguments on the evaluation of transition performance. The negligence of institutional arrangements was claimed as a grave miscalculation of the 'mainstream' approach.[27] On the other hand, the nature of

[26] Neoliberalism refers to the application of the principles of neoclassical economics to economic development and other aspects of economic affairs (Gilpin, 2001).

[27] See Kolodko (1998) 'Economic neoliberalism became almost irrelevant... ', *Transition Newsletter*, June 1998.

institutional change has not been carefully explored and little attention was paid to promoting the organisation capabilities of enterprises except for the simple solution of privatisation.[28] There is misunderstanding not only of the foundations of a market economy but also of the basics of an institutional reform process.[29] Although there is still no general accepted policy stance after the fading of the 'Washington Consensus', comprehensive considerations of institutions and institutional change have become widely acknowledged. For instance, the assessment of the transition process conducted by the EBRD[30] shows a growing concern with the theme of institution building. Some recent World Bank reports, such as the *World Development Reports 2002*, are pertaining to the important role of institutions in supporting markets, addressing what makes institutions work and how to build market-supporting institutions.

1.2.3 Lessons from Economic Transition: Strategies Matter

The starting point of economic transition is a centrally planned economic system with substantial inefficiency due to allocative distortions and poor incentives (Qian, 2000b). Consequently, the successful transition from centrally planned to market-oriented economy could, almost by definition, provide a substantial source of efficiency improvement. But, as the failure of Eastern European reform before 1989 attested, topping this potential is not easy. The different outcome of economic transition demonstrates that the transition process itself is not only a possible source of production increase and economic growth but also can bear high social and economic costs, including lost output, rising unemployment, rising poverty, increasing income disparities, deteriorating social cohesion and crime. Both initial conditions and transition strategies are important in explaining the difference in transition performance. In the process of transition, an appropriate strategy is vital to maximise the benefits and to minimise the costs.

The composition of the necessary institutions poses the first strategic consideration of transition. Some major elements of the economic transition have been identified, including macroeconomic stabilisation, price and market liberalisation, restructuring and privatising state enterprises and redefining the role of the state. But they have clearly been far from sufficient. Facing severe challenges to its legitimacy, the 'mainstream' school attempted to argue that it had never neglected institution building: 'the need for legal reform, the creation of a central bank and effective fiscal system, and other aspects of modern government, were widely recognised from the start of the transition process' (Fisher and Sahay, 2000: 20). The problem is that the necessary composition of institutions, including formal and informal ones, had not been fully identified. Pre-existing informal institutions and their linkages and interdependency with nascent institutions were largely overlooked, therefore leading to unexpected 'side effects'. The reason for such unintended outcome of economic transition has possibly been the absence of 'fits' between the designed plan and the existing institutional environments that reflected a unique historical trajectory of institutional development (Aoki, 2001). The Chinese experience indicates that political

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[28] For instance, the Russian privatisation program operated under the general presumption that the existing enterprises were the appropriate economic units to become independent private firms, and the privatisation was built around enterprises mainly for convenience and to move privatisation along quickly (Joskow *et al.*, 1994)

[29] See Stiglitz, 'Whither reform? Ten years of the transition', World Bank, Annual Bank Conference on Development Economics, 1999.

[30] See the annually published array of 'transition indicators' in the annual *Transition Report*.

reform towards a multiparty democracy is not necessary for economic transition, while a relatively stable political situation is helpful to the implementation of economic transition. The correct sequencing of reforms is thus a very important concern.[31] In the transition process, removing one distortion may be counter-productive in the presence of another distortion. The Chinese experience shows that it is crucial to design the transition process so that concurrent reforms mutually reinforce each other and consequential synergies can generate an impetus propelling reforms as well as growth.

The second important strategic consideration of transition lies in the speed of reform. There have been two approaches for attaining a market-oriented economy: the big-bang (or shock therapy) approach and the gradualist approach.[32] The big-bang approach advocated the need to destroy all remnants of the pre-existing planning system and to replace it with a system based upon a market allocation of resources as rapidly as possible. The gradualist approach advocated replacing the old system with a new one step by step, in a piecemeal manner and in a relatively long time span. The gradualist approach also advocated an experimentalist approach of institution building. The experience of the EEFSU transition economies shows that the social and economic costs of the big-bang approach, usually occurring in conjunction with political reforms, have been extremely high, at least in the short run. This approach has been associated with greater economic and political instability. On the other hand, adopting the gradualist approach, China and other East Asian transition economies were committed to the attainment of market based resource allocation while generally maintaining the stability of society and macro economy. The gradual pace of Chinese transition was partly due to time-consuming process of experimentation to discover the institutions that were deemed optimal for China. In Eastern Europe, Hungary also allowed a relatively gradual approach of transition (Dewatripont and Roland, 1995). It is interesting to note that in particular Hungary has been among the best performers in the EEFSU transition economies and it also managed to attract a large part of total FDI in East Europe in the first half of the 1990s.

How can the advantage of the gradualist approach be explained? From a political economic perspective, a reform with few winners and many losers is politically difficult to implement (Buchanan and Tullock, 1962). Wei (1997) defined the gradualist approach to reform as a sequential implementation of minimum bangs (terminology from Williamson, 1991), which is a simultaneous implementation of a minimum set of reforms that can be implemented independent of other reforms without failures. Based on a model pioneered by Fernandez and Rodrik (1991), Wei demonstrated that political difficulties might be related partly to the speed with which a reform is implemented. When the outcomes of reform are uncertain to individuals, a gradualist or sequential approach splits the resistance force and can thus increase the program's chance of surviving attack by special interest groups. China's experience illustrates that reforms can possibly be implemented without creating many or big losers. The more successful reforms seem to be those that are carefully designed to benefit the majority of the society, in an appropriate, not necessarily optimal, sequencing, and in a gradual manner.

The third strategic consideration is related to the second one but with different implications: should the reform be incremental or radical? The Chinese style of economic

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[31] For important works on the subject, see Edwards (1990) and McKinnon (1991). For summary of components of transition and proposed sequencing, see Fischer and Gelb (1991).

[32] For a summary of the proponents of the big-bang approach and those who favour the gradualist approach, see Dewatripont and Roland (1995).

transition was typically an incremental reform, which means allowing some pre-existing inefficient sectors to exist and meanwhile introducing new and efficient sectors. In the reform aiming at market creation, the Chinese dual-track approach gradually substituted the plan with the market as the basic mechanism of price determination and implemented efficient Pareto-improving (Lau *et al.*, 2000). In the reform aiming at enterprise development, China's incremental reform achieved most success outside rather than inside the state sector (see Subsection 2.1.2 for details). The incremental approach provided an approach of avoiding creating many and/or big losers and keeping economic and social stability. The existence of inefficient sectors reduced political resistance, lowered risk and provided effective compensatory mechanisms at least in the short term.

1.3 The Internationalisation of the Chinese Economy

One of the central tenets of international economics is that economic openness can improve welfare and economic performance.[33] Most perceived benefits of economic openness lie in trade and FDI. The benefits of international trade have long been discussed, with Ricardo's theory of comparative advantage as fundamental underpinning. Since the 1980s, researchers have increasingly recognised the roles of intra-industry trade, increasing returns to scale and imperfect competition on the one hand and uncertainty and insurance on the other (e.g. Harris and Case, 1984; Helpman and Krugman, 1985, 1989; Krugman, 1986). By allowing for the benefits of increasing returns and the additional welfare gains by reducing the dead weight losses created by domestic monopolies, trade can produce more gains than could have been expected from the traditional models focusing on allocative efficiency. However, by allowing for unequal trade, transfer pricing and tax competition, the balance can easily become less positive and even negative – in particular for developing countries. There is also increasing agreement on the benefits that a country may seek to reap from inward FDI. As external direct investment from foreign countries, inward FDI could boost the total funds available for investment in the host economy. In addition, FDI might be a vehicle of the transfer of technology and managerial know-how, the one that could provides host countries a package of valuable tangible and intangible assets. However, despite the fact that 'the benefits of openness are oversold routinely in the policy-relevant literature and in the publications of the World Bank and the IMF' (Rodrik, 1999: 25), the principle relationship between economic openness and growth is still a highly debated topic in the development literature.

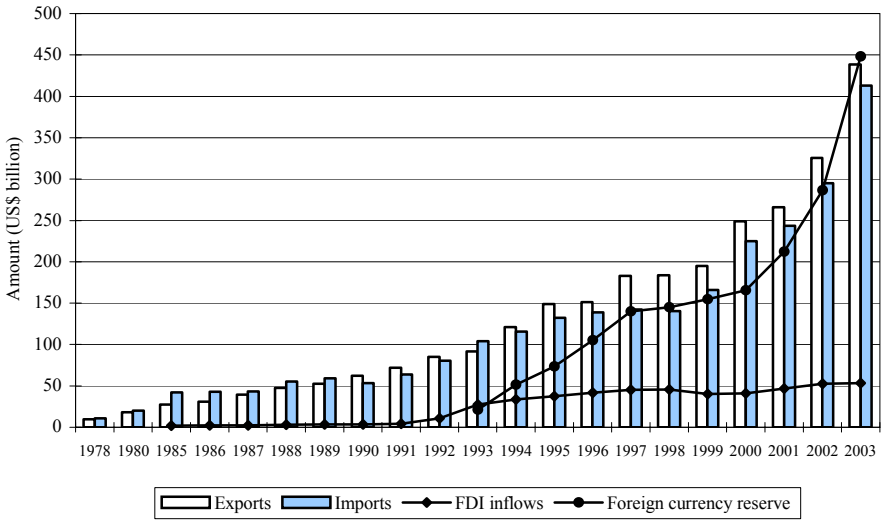
1.3.1 The Increasing Openness of the Chinese Economy: A Measurement Framework

China experienced a rapidly increasing economic openness during the reform period. Several aspects of this process are illustrated in Figure 1-5, which depicts the volume of imports, exports, FDI inflows and foreign currency reserve from 1978 to 2003. China has emerged as the fourth largest trading nation, with a total trade volume of US$ 851 billion in 2003. China has also become one of the most popular investment destinations in the world. Since 2002, it has become the largest recipient of FDI in the world. China has

[33] For surveys of the classic static arguments and several dynamic arguments for free trade see e.g. Helpman and Krugman (1985) or Grossman and Helpman (1991). For empirical studies on the effect of openness on economic performance see e.g. Sachs and Warner (1995) and Edwards (1993).

attracted FDI inflows of over US$ 500 billion. Since 1994, China has consecutively run surpluses in both current and capital accounts, which led to a surge of foreign currency reserve, the amount of which reached US$ 448 billion[34] at the end of 2003 – the second largest in the world only behind Japan.

Figure 1-5 Increasing openness of the Chinese economy during the reform period



Source: Ministry of Foreign Trade and Economic Cooperation (MOFTEC).

According to the WTO, China has become the fourth largest merchandise exporter of the world, only behind the United States, Germany and Japan. Merchandise exports contributed significantly to China's economic growth in the 1980s and 1990s (Yu, 1998). China rapidly strengthened its export competitiveness[35] in global markets: the share of China's exports in the total volume of the world increased from one percent in 1985 to over six percent in 2000 (UNCTAD, 2002). The structure of China's exports also substantially changed: in 1985, exports of primary products and resource-based manufactures represented 49 percent of all exports; in 2000 their percentage receded to 12 percent and that of non-resource-based manufactures jumped to 87 percent. The percentage of high-technology products in China's exports jumped from 3 percent in 1985 to 22 percent in 2000. However, the level and trend of export pattern during the reform period can be explained by relative comparative advantages and the effect of exchange rate was

[34] The amount of foreign currency reserve as to the end of 2003 was announced to be US$ 403 billion by Chinese government. However, this figure would be US$ 448 billion if taking account of the amount of US$ 45 billion that was injected into the state-owned banking sector.

[35] Export competitiveness has many aspects, the most obvious implying higher exports, but it also means diversifying the export basket, sustaining higher rate of export growth, and upgrading the high-value-added content of export activity.

significant in the 1990s (Yue and Hua, 2002). Behind the export boom in the 1990s was the role of inward FDI.[36] In 1988, foreign affiliates accounted for less than 9 percent of exports; in 2003, their percentage jumped up to 54.8 percent. Multinational Corporations (MNCs) played a leading role in the particularly remarkable export dynamism in high-technology industries. The percentage of exports by foreign affiliates in high-technology industries rose from 59 percent in 1996 to 81 percent in 2000. Throughout much of the 1990s, China accounted for almost half of FDI inflows to developing countries and was the second largest recipient of FDI inflows in the world, after the United States. It was generally anticipated that the WTO entry would further increase China's FDI inflows. Indeed, in the first year after its WTO entry, China surpassed the United States to become the world's biggest recipient of FDI with over US$ 52 billion in FDI inflows in 2002. FDI inflows to China further increased to US$ 55 billion in 2003.[37]

Most studies on economic openness draw attention to trade policies. Theoretical growth literature has given more attention to the relationship between trade policies and growth rather than to the relationship between trade volumes and growth (Yanikkaya, 2003). Researchers have used a number of factors such as trade flows, trade restrictions, or price distortions to measures trade openness. Sachs and Warner (1995), for instance, provided a widely used indicator, based on the classification of the trade regime of a country. However, there is still no agreement on the best measure of openness on a cross-country basis.[38] In order to provide an internationally comparative yardstick of the openness of the Chinese economy, we developed a simplified method[39] to measure inward and outward economic openness on a cross-country basis. To have a more comprehensive understanding, we measured economic openness with respect to both trade and FDI. The method is applied to the largest 50 economies in the world (in terms of GDP) in 2001, to illustrate the comparative degree of economic openness (Table 1-6). A preliminary assessment of the level of economic openness of most East Asian economies, a number of transition economies with relatively large economic size, and other large-scale developing and developed economies could be made on the basis of this openness index. This assessment generally supports the positioning of the East Asia countries and the EEFSU transition economies in the scheme of Figure 1-2.

[36] See Zhang and Song (2000), Zhang and Felmingham (2001) and Liu *et al.* (2001) for discussions.
[37] Data in this paragraph is according to UNCTAD (2002).
[38] See e.g. Krishna (1992), Pritchett (1996), Rodrigues and Rodrik (1999) and Yanikkaya (2003) for the discussions of different measurement approaches.
[39] The averages of the four relevant indexes (FDI outflows, exports, FDI inflows, imports) of the largest 50 economies in the world in terms of GDP of the 2000 are used as benchmarks.

Table 1-6 Degrees of openness of the largest 50 economies in 2001

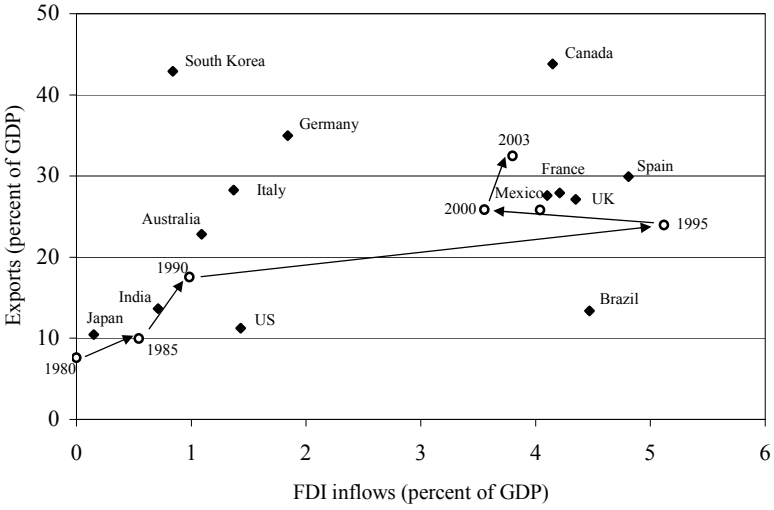
No.	*Economy*	*Imports**	*FDI inflows**	*Openness index (Inward)*	*Exports**	*FDI outflows**	*Openness index (Outward)*	*Openness index (Overall)*
1	United States**	14.95	1.43	0.35	11.24	1.03	0.29	0.32
2	Japan	9.81	0.15	0.14	10.44	0.93	0.27	0.20
3	Germany	33.07	1.84	0.61	34.97	2.28	0.77	0.69
4	United Kingdom	29.28	4.35	0.85	27.12	4.78	1.08	0.97
5	France	26.35	4.21	0.80	27.91	7.10	1.46	1.13
6	China	23.41	4.04	0.75	25.83	0.59	0.39	0.57
7	Italy	26.67	1.37	0.48	28.27	1.97	0.64	0.56
8	Canada	38.64	4.15	0.94	43.81	5.28	1.35	1.15
9	Mexico	29.97	4.10	0.83	27.61	0.14	0.34	0.58
10	Spain	31.40	4.81	0.93	29.92	5.69	1.26	1.10
11	Brazil	14.40	4.47	0.69	13.36	-0.45	0.08	0.38
12	India	15.43	0.71	0.27	13.65	0.16	0.18	0.23
13	South Korea	40.56	0.84	0.59	42.91	0.57	0.58	0.59
14	Netherlands	59.73	13.48	2.27	65.06	12.76	2.80	2.53
15	Australia**	22.75	1.09	0.40	22.85	2.99	0.74	0.57
16	Russia	24.15	0.80	0.38	36.81	0.82	0.55	0.47
17	Argentina	10.16	1.19	0.26	11.42	-0.07	0.12	0.19
18	Switzerland	41.13	3.59	0.91	45.47	7.00	1.65	1.28
19	Belgium	81.09	38.41	5.37	84.42	43.83	8.03	6.70
20	Sweden	40.56	5.61	1.13	46.45	3.14	1.04	1.09
21	Austria	52.58	3.12	1.00	52.21	1.66	0.86	0.93
22	Saudi Arabia	24.45	0.01	0.30	41.94	-0.02	0.47	0.39
23	Poland	33.01	3.24	0.77	29.12	-0.05	0.32	0.55
24	Norway**	30.45	1.24	0.51	46.61	-0.44	0.46	0.49
25	Hong Kong	138.58	14.69	3.36	143.90	7.01	2.77	3.07
26	Denmark	39.18	7.11	1.29	45.59	8.03	1.81	1.55
27	Turkey	31.04	2.21	0.63	33.69	0.34	0.44	0.53
28	Indonesia	32.58	-2.26	0.14	41.08	0.09	0.48	0.31
29	Venezuela	17.56	2.76	0.53	22.66	0.12	0.28	0.40
30	Finland	31.58	3.09	0.74	40.38	6.92	1.58	1.16
31	Greece**	32.93	1.36	0.56	24.98	0.52	0.37	0.46
32	Thailand	60.20	3.32	1.11	66.26	0.14	0.78	0.95
33	Iran	21.49	0.04	0.27	28.09	2.47	0.72	0.49
34	South Africa	25.29	5.99	0.99	27.81	-2.81	-0.14	0.43
35	Portugal	41.24	5.37	1.11	31.63	6.89	1.47	1.29
36	Israel**	46.94	3.25	0.94	39.99	0.74	0.58	0.76
37	Ireland	80.49	15.18	2.71	95.39	5.68	2.00	2.36
38	Egypt	22.67	0.52	0.33	17.58	0.01	0.20	0.27
39	Malaysia	97.96	0.63	1.26	116.34	0.30	1.38	1.32
40	Singapore	151.84	12.78	3.31	173.56	11.15	3.78	3.54
41	Colombia	19.04	3.06	0.58	19.40	0.02	0.22	0.40
42	Philippines	47.43	1.37	0.73	49.27	-0.22	0.53	0.63
43	Puerto Rico	100.44	0.00	1.22	80.76	0.00	0.92	1.07
44	Chile	32.66	6.74	1.17	34.68	2.16	0.74	0.95
45	Pakistan	19.35	0.66	0.31	18.01	0.05	0.21	0.26
46	Czech Rep.	73.79	9.93	2.03	71.05	0.29	0.86	1.44
47	Algeria	21.40	2.19	0.51	37.18	0.02	0.43	0.47
48	Peru	17.28	2.13	0.45	15.82	0.18	0.21	0.33
49	Hungary	62.61	4.70	1.30	60.47	0.65	0.79	1.05
50	New Zealand**	35.08	3.98	0.88	36.74	2.37	0.80	0.84
	Average	41.09	4.38	1.00	43.83	3.10	1.00	1.00

Source: World Bank and United Nations Conference on Trade and Development (UNCTAD).
Note: 1) * Share of GDP. 2) ** Data for 2000.

The degrees of economic openness of the largest 15 economies (in terms of exports and

FDI inflows) in 2001 are illustrated in Figure 1-6. In the same figure, the dynamics of the openness of the Chinese economy is also depicted, demonstrating the fast growing openness of the Chinese economy from 1980 to 2003. Since 1995, the relative significance of inward FDI decreased despite the fact that the total volume of FDI inflows increased from US$ 37.5 billion in 1995 to US$ 53.5 billion in 2003. The ratio of exports to GDP increased steadily for more than 20 years and climbed to 32.5 percent in 2003.

Figure 1-6 Degrees of openness of the largest 15 economies* in 2001 and the Chinese path of openness



Source: World Bank and MOFTEC.
Note: * Not including the Netherlands (exports = 65.1% of GDP; FDI inflows = 13.5% of GDP).

1.3.2 China's Economic Internationalisation: Another Chapter to the 'East Asian Miracle' (Hi) story?

China could be considered as another example of the 'East Asian Miracle' as termed by the World Bank (1993).[40] Although interrupted by the 1997 financial crisis, the development performance of East Asian economies is certainly remarkable. Most of this alleged 'miracle' is carried by the growth performance of seven economies in the region – South Korea, Taiwan[41], Singapore, Hong Kong[42], Malaysia, Thailand and Indonesia (Table 1-7). Nine East Asian countries (Japan[43] and China included) have been among the 12

[40] A World Bank team published, in 1993, the influential research report – *The East Asian Miracle, Economic Growth and Public Policy*, which stimulated an ongoing debate about the causes of the 'miracle'.
[41] Abbreviation for 'Taiwan, Province of China'
[42] Abbreviation for 'Hong Kong, Special Administrative Region of P.R. China'
[43] Japan long ago joined the ranks of developed countries. Its economic success in the post-war era prior to the 1990s is without peer: its GDP per capita raised from 276 US$ in 1950 to more than 23000 US$ in 1990.

fastest-growing economies in the world for thirty years since 1960. GDP per capita in all the East Asian countries taken together has been rising more than twice as fast as in developed countries. However, there is high diversity in natural resources, population, culture, economic development level, and government policy orientation among the East Asian countries, ranging from small city-states such as Hong Kong and Singapore to large resource-rich countries such as Indonesia. Thus, it is impossible to speak of a single 'East Asian model' of economic development.

Table 1-7 Growth performance of the East Asian economies

Economy	*GDP per capita 1995, US$ (PPP)*	*GDP growth 1961-69*	*GDP growth 1970-79*	*GDP growth 1980-89*	*GDP growth 1990-96*
Hong Kong	23,900	9.9	9.2	7.5	5.0
Singapore	22,600	9.6	9.4	7.2	8.3
Taiwan	13,200	/	10.2	8.1	6.3
South Korea	11,900	8.3	9.3	8.0	7.7
Malaysia	10,400	6.6	8.0	5.7	8.8
Thailand	8,000	7.8	7.3	7.2	8.6
Indonesia	3,800	3.7	7.8	5.7	7.2
China	3,100	3.0	7.5	9.3	10.1

Source: IMF and World Bank.

Few economists predicted the 'East Asian Miracle' and there is still no widely accepted theoretical explanation for it. As Nelson (1998) argued, the extremely uneven performance among nations that were very poor as of 1960 remains a nagging (theoretical) puzzle. In 1955, South Korea and Taiwan were as poor as Zaire and Sudan. No one, at that time, could imagine that they would become the world's most successful developing economies. Now the four 'Asian Tigers' – Hong Kong, Singapore, South Korea and Taiwan – are typical Newly Industrialised Economies (NIEs), some of which have GDP per capita even higher than some developed countries. Following similar development path, some Southeast Asian countries such as Malaysia and Thailand present other examples of the 'East Asian Miracle'.

The rapid economic growth of East Asian countries was due to both factor accumulation and technological progress. According to the World Bank (1993), most of East Asia's rapid growth is due to superior accumulation of physical and human capital, and countries in East Asia were better able than most other countries at allocating physical and human resources to high-yielding investment projects. World Bank (1993) and Kawai (1994) have also provided empirical evidence of rapid TFP growth in East Asian economies. Following the approach of growth accounting, however, Young (1994, 1995), Kim and Lau (1994) and Krugman (1994b) suggested that the increases in TFP played a surprisingly small role in the economic growth of the East Asian countries. In several countries, sharp increases in physical and human capital as well as in labour-force participation accounted for almost the entire rise in output. Table 1-8 shows the factors driving the growth of East Asian economies, according to Kim and Lau (1994). Clearly, growth of the East Asian economies can be explained mostly by factor accumulation.

Table 1-8 Growth accounting of the East Asian economies

Economy	*Period*	*Capital*	*Labour*	*Technological progress*
China	1954-1990	92	9	-1
Hong Kong	1966-1990	56	16	28
Indonesia	1970-1990	116	11	-27
Japan	1957-1990	63	5	32
Malaysia	1970-1990	71	19	10
Singapore	1964-1990	59	21	20
South Korea	1964-1990	36	13	1
Taiwan	1953-1990	89	9	2
Thailand	1966-1990	72	13	15

Source: Kim and Lau (1994).

Studies of the East Asian Miracle have gone beyond growth accounting and have tried to give underlying reasons for the dramatic rise in factor inputs. Factors such as stable macro economy, high saving and investment rate, high-quality human capital, high-degree economic openness, industrial policy, well promoted education and some demographic, political and cultural issues have been identified. Research interests have been primarily directed at the roles played by government policies and economic openness. Among the variety of policy explanations, two positions have emerged. Adherents of the neoliberalism stressed East Asia's success in getting the fundamentals right, pursuing market-conforming policies and minimising price distortions. The critics of this approach emphasised a key role played by the government particularly in determining resource allocation to specific industries. In terms of economic openness, the export-led growth strategy of the East Asian economies was widely identified by scholars as a reason for their success. For instance, the World Bank (1993) argued that focus on foreign markets promoted economic efficiency by keeping domestic prices closely in line with international prices and also accelerated introduction of foreign technologies, thus facilitating increased productivity.

Although economic openness – in particular export orientation – was widely identified as one of the common features of the East Asian countries, there are substantial differences between different economies with respect to the degrees and dynamics of economic openness (see Table 1-9). As city-states and free harbours, Hong Kong and Singapore have extremely high degree of economic openness, from both inward and outward perspectives. As medium-sized open economies, Thailand and Malaysia have been characterised by particularly high openness to both international trade and inward FDI. With relatively larger economic scale, South Korea and Taiwan have had high level of exports but relatively low levels of inward FDI. Contrary to the common preconception, Japan is one of the most closed economies in terms of the relative level of economic openness, especially in inward FDI. The size of domestic market has effects on the level of economic openness: the smaller an economy is, the opener it tends to be. Correcting for this scale effect, China has already become a more open economy than many other East Asian economies. Although China is still not as open as Thailand and Malaysia, for a large continental economy, foreign trade and inward FDI have already accounted for a substantial proportion of China's GDP. With regard to inward FDI, China has shown high ratios since the early 1990s, following Hong Kong, Singapore and Malaysia, but leading Thailand, Indonesia, South Korea and Japan.

Table 1-9 Economic openness of the East Asian economies

Economy	*Percent of GDP*	*1960*	*1965*	*1970*	*1975*	*1980*	*1985*	*1990*	*1995*	*2000*
China	Exports	/	/	1.81	4.21	7.61	9.99	17.53	23.99	25.89
	FDI inflows	/	/	/	/	/	0.54	0.98	5.12	3.56
Hong Kong	Exports	84.41	70.12	94.58	84.60	89.85	109.04	134.27	149.45	150.10
	FDI inflows	/	/	/	/	/	/	/	/	38.09
Indonesia	Exports	15.04	5.53	13.45	24.01	34.18	22.89	25.33	26.31	42.35
	FDI inflows	/	/	0.86	1.48	0.23	0.35	0.96	2.15	-2.99
Japan	Exports	10.55	10.35	10.65	12.61	13.49	14.17	10.38	9.09	10.76
	FDI inflows	/	/	/	/	0.03	0.05	0.06	0.00	0.17
Malaysia	Exports	50.60	41.83	41.41	43.02	56.69	54.09	74.54	94.09	124.80
	FDI inflows	/	/	2.20	3.54	3.75	2.19	5.30	4.70	4.21
Singapore	Exports	/	/	/	/	/	/	184.05	178.25	178.79
	FDI inflows	/	/	/	5.15	10.55	5.92	15.20	10.58	5.83
South Korea	Exports	3.19	8.40	13.78	27.23	32.74	32.89	29.09	30.20	44.79
	FDI inflows	/	/	/	/	0.01	0.25	0.31	0.36	2.01
Thailand	Exports	15.68	16.45	14.99	18.36	24.11	23.21	34.13	41.84	67.07
	FDI inflows	/	/	0.60	0.58	0.59	0.42	2.86	1.23	2.79

Source: World Bank.

Openness to foreign trade and inward FDI has a significant impact on the path of China's economic development. China represents the 'openness driven' growth model pioneered by some East Asian economies such as South Korea and Taiwan, but to some extent goes even further. Some East Asian economies are the most cited precedents having successfully employed the strategy to attract FDI in the export sector but, at the same time, have in place import substitution polices for the reasons such as income distribution or industrial development (Harris and Schmitt, 2001). Although import substitution policies still exist in a number of industries, China's economy is increasingly open to imports and closely integrated into the world economy, much more so than Japan and South Korea were at a similar stage of their economic development. Although the bilateral trade surplus with the United States is swelling, China has deficits with many other important trade partners such as Germany, Japan and South Korea. In recent years, China's imports are rising faster than its exports and its overall international trade is moving towards balance. According to the WTO, China has become the third largest merchandise importer of the world, only behind the United States and Germany. On the other hand, China's FDI policies have been proactive, both at the central level and at the levels of provincial and cities, thus facilitating a large amount of FDI inflows, which presents a significantly different pattern from Japan and South Korea.

The debate centres on the role of states versus markets in the East Asian economies. The debate (mainly on the experience of Japan, South Korea and Taiwan) arises not only because proactive government policy was widely employed but also because it was consciously used for the purpose of stimulating economic growth. What were the basic government policies responsible for East Asian growth? What was the role of government policy in stimulating growth? Several authors (Amsden, 1989; Waden, 1990; Johnson, 1982, 1995; Woo-Cumings, 1999) have explored the nature of East Asian developmental state and especially the role of governments in industrialisation. They asserted that East Asian governments have played a central role in the development of their economies and that widespread use of industrial policies has been a crucial factor behind the phenomenal economic growth. These interpretations of the East Asian Miracle led to the emergence of the theory of developmental state, which challenged the neoliberalist paradigm of development theories.

1.4 Industrialisation, Chinese Style

Traditionally, the concept of industrialisation refers to the proportion of the national income derived from the industrial sector in general goes up. Associated with the increasing share of industrial output, the proportion of the working population engaged in the industrial sector also increases.[44] This traditional concept of industrialisation captures the fundamental feature of the structural change in capitalist economy since the English industrial revolution – the increasing significance of the industrial sector in the economy. However, as the service sector gained a significant proportion at the expense of the industrial sector in most developed economies in the 20th Century, the traditional focus on the manufacturing activities and the industrial sector was not sufficient for understanding the overall structural change in an economy. Therefore, we use the concept of industrialisation to refer the structural change that is characterised by the growing proportion of the output (and value-added) of the non-agricultural sector (including both industrial and service sectors) *vis-à-vis* the whole economy.

1.4.1 The Process of China's Industrialisation

Industrialisation is generally considered to be a necessary part and impetus of economic development. China experienced a rapid industrialisation process during its reform period and this process accelerated in recent years. The value-added of the agricultural sector in the whole economy decreased from 28.1 percent in 1978 to 9.5 percent in the first half of 2003. The post-reform industrialisation process is a continuation of the pre-reform one (Figure 1-7), but with different characteristics. Since the establishment of the People's Republic of China in 1949, great efforts have been made to carry out an industrialisation process. The efforts were initially largely based upon the central planning model of the former Soviet Union. Since the 1960s, there were some modifications of the planning system. Prior to the 1980s, the government's industrialisation efforts were focused on the establishment of a heavy industrial base as well as the formation of a comprehensive range of modern industries. During the reform period, the industrial structure was greatly upgraded as more modern manufacturing and service sectors quickly developed. While in other countries around the world, the industrial sector decreased substantially in importance compared to the service sector, China's industrial sector sustained its position in the economy in the reform era – the percentage of value-added of the industrial sector has even increased two percent in 22 years since 1978.[45]

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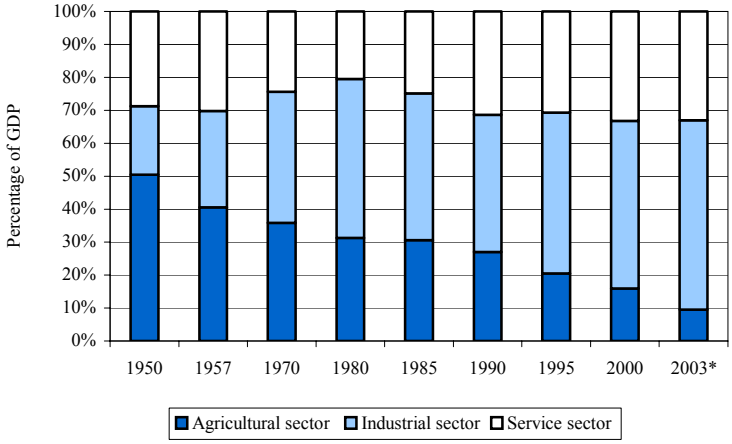
[44] See Berend and Ranki (1982) and Bagchi (1987) for the discussions of the traditional concept of industrialisation.

[45] The agricultural sector includes agriculture, forestry, and fishing; the industrial sector includes mining, manufacturing, and utilities (production and supply of electricity, gas and water); the services sector includes all other industries and sectors that are not included in the agricultural and industrial sectors. In 1985, Chinese government first formulated the classification of these three sectors. In 2002, with the new revision of the standard industrial classification, the division among these three sectors was slightly changed.

Figure 1-7 Sectoral composition of GDP in China, 1950-2003

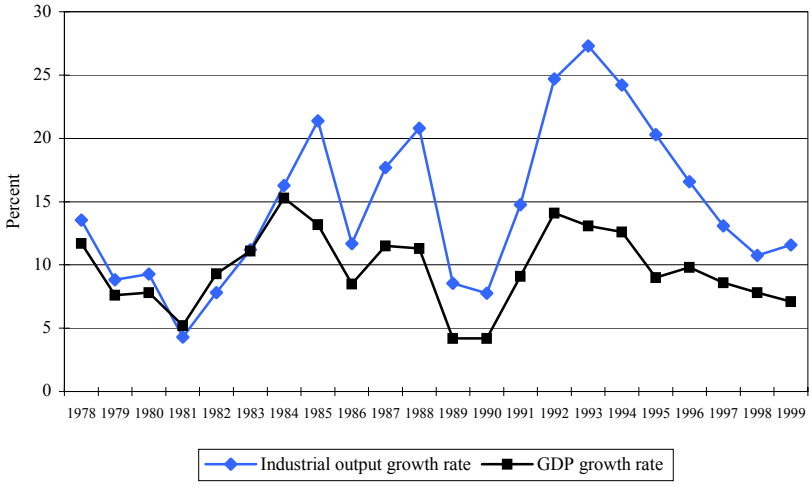


Source: National Bureau of Statistics of China (NBSC).
Note: * First half of 2003.

Industry, especially the manufacturing sector, has been one of the driving forces of China's rapid economic growth. The annual growth rate of total industrial output, which averaged 14.65 percent between 1978 and 1999, had a high correlation with the annual GDP growth rate, which averaged 9.64 percent during the same period (Figure 1-8). The manufacturing value-added per capita increased from RMB¥ 444.5 in 1989 to RMB¥ 1,747.5 in 1999 – the average annual growth rate of manufacturing value-added from 1989 to 1999 was 13.2 percent. Through efforts of over five decades, the Chinese manufacturing sector can produce virtually a whole range of industrial products and China has become the world's largest producer of a large number of products (see Section 5.1 for details). China is now the world's fourth largest industrial producer behind the United States, Japan and Germany. After 2000, a new round of accelerated industrial development began due to the rapid growth of China's heavy and chemical industries. The percentage of value-added of the industrial sector in the Chinese economy amounted to 51.8 percent in 2002. This figure increased sharply to 57.5 percent in the first half of 2003 thanks to the accelerating development of some specific industries, which illustrates the very dynamic and still rather volatile nature of the Chinese economy and China's industrialisation path.[46]

[46] The industries of mechanics, automotive, steel and electronics contributed 48 percent to total industrial development from January to August 2003. They took 38 percent of the total sales of the industrial sector. The dramatic structural change possibly reflected the overheating of the Chinese economy, at least of the specific sectors which included the four manufacturing industries mentioned above and the downstream industries such as real estate development.

Figure 1-8 Growth rates of industrial output and GDP, 1978-1999



Source: NBSC.

But the service rather than the industrial sector has provided the main impetus for industrialisation during the reform period. The percentage of value-added of the service sector increased steadily from 23.7 percent in 1978 to 33.4 percent in 2000 and remained relatively stable afterwards. Nevertheless, the share of the service sector in China is still significantly lower than that in developed countries and even developing countries on average. The low share of this sector in the Chinese economy is a legacy of the planned economy and also reflects China's increasingly clear positioning as a manufacturing powerhouse in the world economy. In the era of planned economy, many services provided by the market in most market economies were coordinated in the boundary of firms and were incorporated in the industrial output. Many services provided as private goods in a market economy were provided by the government as public goods, such as free housing, free education, free medicine, and so on. The transition process has created markets for these formerly public-provided services, although these processes of marketisation are still far from over. The extremely low share of the service sector in the economy is also a result of the dualistic structure[47] of the Chinese economy – a legacy of Mao's China. The rapid

[47] By 'dualistic structure' we basically mean the coexistence of a modern industrial sector and a large rural sector, as well as the gaps and barriers between these two largely separated parts of the economy. In growth theory, Lewis (1954) pioneered the studies of the 'dualistic structure' of developing economies. Solow model and some of its extensions remained within the framework of a one-sector model, neglecting the coexistence of capitalist and non-capitalist sectors, usually a most striking feature of underdevelopment. The two-sector, or dualistic, development theory models introduced by Lewis, unlike the static Solow model, have transitional dynamics that are different from neoclassical approach. Lewis pioneered the view of development as a transformation from traditional forms of production and economic organisation to an advanced capitalist economy. With the introduction of a labour surplus and an elastic labour supply, Lewis took an important step away from the neoclassical model.

industrialisation process in the period of planned economy is partly based on the sacrifice of the Chinese peasants. The Household Registration System (HRS) and food rationing prevented the mobility of people from poor rural areas to relatively richer urban areas. The HRS remained during the reform period but has been modified to permit more flexibility in the reallocation of labour between rural and urban areas. This change in HRS as well as the abolition of food rationing in the early 1990s facilitated rural workers to work temporarily in cities, which contributed substantially to the large flow of migrant labour from rural to urban areas. Although China experienced a fast process of industrialisation and urbanisation in the reform era and the agricultural sector held less than 10 percent of the GDP in 2003, still over 700 million people lived in the rural area, which led to the underdevelopment of the service sector on the one hand and the underestimate of value-added from this sector on the other.

1.4.2 Characteristics of the Chinese Industrialisation: Comparing with the East Asian Economies

East Asian economies experienced dramatic changes in industrial structure during the period of their rapid economic growth. South Korea and Taiwan followed Japan in the process of industrial transformation from light industries to heavy and chemical industries and further to some high-technology sectors. In Singapore and Hong Kong, foreign trade and financial services developed to such a level that transformed the city-states into global commercial and financial centres. Thailand, Malaysia and Indonesia started the industrialisation process with selected industries and benefited from increasing inward FDI, especially that from Japan and the East Asian NIEs.

In the late 1980s, the newly emerged theory of the developmental state emphasised that governments played a central role in the economic development of East Asian economies. Industrial policy has been asserted the central factor behind the rapid industrialisation of East Asian economies. Some important interpretations of the role of industrial policy on industrialisation include Amsden's (1989) book on South Korea, Wade's (1990) book on Taiwan, as well as Johnson's books on Japan (1982, 1995).[48] These authors argued that the governments of the three economies devised an array of incentives that encouraged private investment in strategic industries. Price mechanism and non-price means were utilised to encourage private firms to take actions that the government considered to promote rapid industrialisation. These governments identified critical economic areas for development and directed resource allocation towards selected industries. These governments also tried to subject the selected sectors to international competition that forced them to become more efficient. The industrial policies encouraged the development of industries and altered the structure of the economy that would not have taken place merely depending on firm response to market signals.

Factors associated with rapid industrialisation in other East Asian economies, such as high saving and investment rates, high-quality human capital and industrial policy, are also applicable to China.[49] Like in Japan and South Korea, industrialisation in China during the

[48] Nevertheless, some scholars argued that the economic success does not itself constituted proof of the efficacy of such policy (Vestal, 1993), and the successes that were achieved were often matched by failures, and that the costs were not insignificant (Stern *et al.*, 1995).

[49] China has one of the world's highest saving rates at over 40 percent. As a percentage of GDP, investment has grown to 45 percent in recent years. Fixed asset investment has been the principle driver of China's economic

reform period was greatly influenced by industrial policy. In the 1980s, the priority was the development of light industries in order to change the structure of dominant heavy industries and weak light industries and the overwhelming shortage of consumer goods in the markets.[50] As a result of these early efforts, the percentage of light industry in total industry rose from 44 percent in 1979 to 52 percent in 1984. In the early 1990s, the problem of shortages in the consumer goods was generally solved and the industrial structure was healthier than that of the 1980s in terms of the heavy-light industry ratio. The industrial policy pursued in Japan and South Korea's years of rapid development can be considered as valued-orientated, which aimed to direct resource allocation towards industries with higher growth potential and more value-added (thus the more potential contribution to economic growth). Different from this scheme, China's industrial policy prior to the early 1990s can be considered as shortage-orientated. The industrial policy aimed to direct resource allocation towards industries with low production capacity thus with difficulties to meet the market demand. As markets were not fully created and firms were not good at reacting to market signals, industrial policy in China acted in part as a complementary to the market mechanism for resource allocation.

In 1989, the State Council issues the 'Decision on the Gist of Current Industrial Policy', the first explicit general guideline for a national industrial policy. In 1994, the State Council issued the 'Outline of State Industrial Policy in the 1990s', providing the basic institutional framework for China's industrial policy. In the 1990s, China's industrial policy has become more value-orientated to support some specific strategic industries. Several 'pillar industries' characterised by sophisticated technology and high value-added production, such as machinery, electronics, petrochemical, automotive and construction, have been identified and consequently supported by specific policy measures. The support of the development of high-tech industries has been increasingly emphasised by China's industrial policy. The industrial policy for the electronics and Information and Communications Technology (ICT) sector (first consumer electronics, then computer and telecommunications, later on software and integrated circuit) and the related broad national strategy of 'promoting industrialisation by informatisation' provide a typical example (see Subsection 7.1.2 for details). In addition to the pillar-industry argument, Chinese industrial policy has kept emphasising the importance of agriculture, basic industries and infrastructures. China's trade policy reinforced the role played by industrial policy. Based on a study on the determinants of tariff rates for 95 industries in 1996, Chen and Feng (2000) found that the trade policy pursued by China was principally defined by the industrial policy that favoured high-technology industries and the concerns of social stability. On the other hand, polices towards inward FDI have become increasingly industry selective. The role played by the Chinese government in industrialisation came not only from the central government but also from local state agencies. Based on a decentralised governance structure, the arrangements of authority sharing and a system of fiscal decentralisation have brought strong incentives to local governments to promote economic development at the local level. As local governments actively involved in the process of local economic development, especially of the growth of the manufacturing sector, which was considered to be the main source of tax income and local employments, they spontaneously played a significant role in industrialisation in their localities (Qi, 1992;

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growth.

[50] In Kornai's view, the problem of shortage is the central, unavoidable feature of the planned economies. It is rooted in the problem of soft budgetary constraints in the socialist economies.

Zheng, 1994; Montinola *et al.*, 1995).

During the reform period, China's industrialisation process was largely driven by the new economic forces introduced by economic transition, internationalisation and a decentralised government structure. The newly entered non-state-owned enterprises have played a vital role in the rapid structural change in the Chinese economy. While an increasing number of foreign firms built or transferred their production capacity into China, industrial clusters popped up in some FDI-attracting hotspots in coastal provinces of China. Some industries, such as that of low-end products like textiles and toys, led this process of considerable capacity migrations, followed by other industries of high-technology products. As this process accelerated in recent years, the effects of China's industrialisation went beyond its territory. China has been alleged to become an increasingly powerful global deflationary force as low price consumer goods made in China flush into international markets. Ironically, China was also alleged to be a global inflationary force as the strong demand for natural resources and primary products from China exploded in recent years.

As the manufacturing strength and export competitiveness built up, China was considered to become the 'workshop of the world', as highlighted by its rapid economic growth and extremely high share of the industrial and manufacturing sector in the economy. Behind China's strengthened competitiveness was a combination of capital and technology from foreign firms and domestic labour forces from the world's largest pool of manufacturing labour. Extremely cheap labours fed the country's export-oriented industries, fuelling low-cost production for the manufacturing sector and exports. This provides a comparable process to what took place in the East Asian countries, but with times of scale. The more major difference has been that, in these tiger economies, wage inflation followed rapid economic growth as labour resource became stretched eventually. In China, however, the supply of low-priced labour seems almost inexhaustible, making it possible to sustain this growth pattern for a considerable while in the future.

One of the specific characteristics of China's industrialisation during the reform period, therefore, lies in the labour side and the dualistic nature of its economic structure. There are still a huge amount of redundant labour in the rural areas, earning on average just RMB¥ 2476 per year compared with the RMB¥ 7703 of people living in cities.[51] The gap between rural and urban areas poses a severe problem to China due to a severely skewed economic growth process. Yet it also confers a bonanza for factory bosses in China: as most migrant workers head to factories around China's coastal cities, a seemingly endless supply of low-priced labour[52] allows companies not only to control costs, but even to cut them dramatically. By contrast, post-war Japanese and South Korean economic development has been characterised as rapid growth with relatively equitable distribution of income (Whang, 1989).

[51] Data for 2002. According to the NBSC.

[52] In 2004, severe shortage of migrant workers in a number of locations such as Guangdong was reported. Whether this signalise a structural change remains a question and need further observation.

1.5 The Chinese Model of Economic Development: Follower or Forerunner?

The process of economic change is dynamic, evolutionary and multidimensional. With respect to the different paths, various speeds and characteristic features of the multi-faceted economic change, the development process of every country can be considered unique. Nevertheless, some countries do present models of economic development, which provide some best practices (development strategies and institutional forms) for latecomers to follow. The Chinese model of economic development does not challenge the conventional wisdom on what are the best practices, but it does provide some lessons on how to effectively implement these best-practice strategies and institutions. In other words, China has been not only a follower of best practices but also a forerunner in some innovative approaches to implementing them with 'new combinations' – to use Schumpeter's phrase. Table 1-10 summarises the comparative studies between China, EESFU transition economies and East Asian economies (focusing on Japan and South Korea) in the previous three sections, in order to facilitate the further discussion of the uniqueness of the Chinese model of economic development.

Table 1-10 A summary of the preceding comparative studies

Economy	*Transition*	*Internationalisation*	*Industrialisation*
China	Gradualist approach – Without multiparty democracy – Gradual liberalisation – Privatisation delayed	– Export promotion – FDI promotion	Before reform Centrally planned After reform – High saving and investment rate – Government-led (Industrial policy) – The role of local governments – The role of foreign MNCs – Supporting large-sized SOEs
EEFSU	Big-bang approach – Multiparty democracy – Liberalisation – Privatisation	– FDI promotion	– Centrally planned
East Asia		– Export promotion	– High saving and investment rate – Government-led (Industrial policy) – Supporting domestic firms

China's good economic performance since 1978 could be partly attributed to the adoption of the development strategies previously successfully implemented by other countries, in particular Japan and the East Asian NIEs (cf. Perkins, 2001; Pereira, 2003). In this view, China has learned from other countries. The 'flying geese' model (Akamatsu, 1962) holds that lower-wage countries follow leader countries up the value-added chain and technology ladder. It also reflects a pattern of learning from neighbours. For instance, decisions on which industries to favour and the related policy flexibility are crucial to the effectiveness of industrial policies. The successes or failures of other countries' policy practices and their paths of technological progress provide valuable lessons for the latecomers. Based upon a common feature of the coexistence of a proactive government and a market economy, both China and the East Asian NIEs have had a public drive for industrialisation, high rates of saving and investment, and (various forms of) openness to the world economy. China not only shares these common fundamentals with its East Asian neighbours, but has also learned from the development experience of them. China' experience has provided additional evidence that backward economies can make rapid

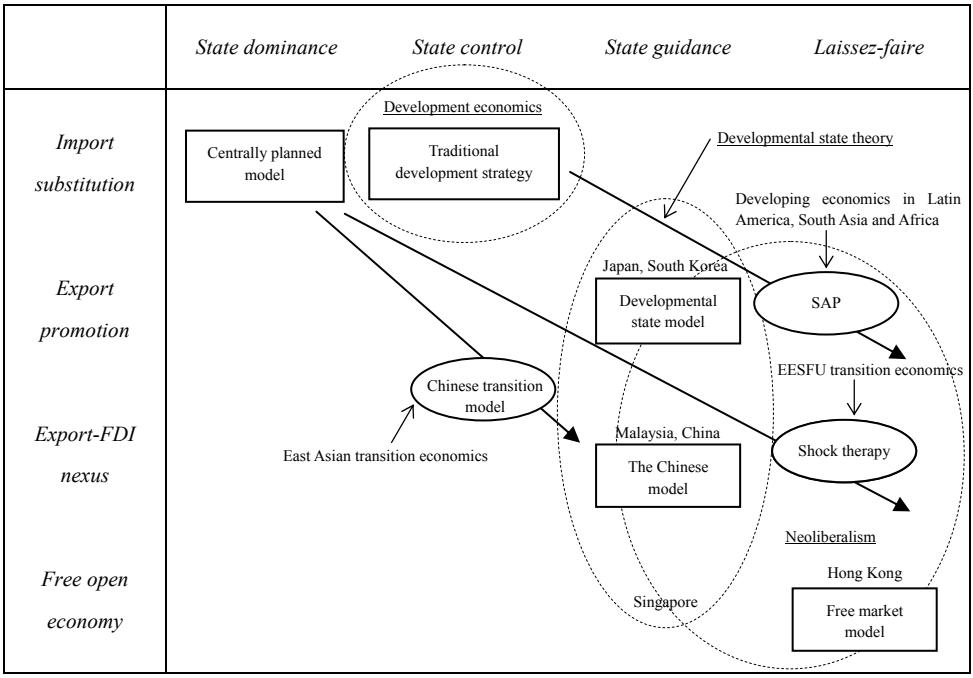
progress by imitating the leaders.

On the other hand, as a transition economy, China began its rapid economic growth at a very different starting point from that of its East Asian neighbours. China faced the unprecedented challenge of transforming a centrally planned economy into a market economy. In addition to the standard sources of economic growth adequately explored by the East Asian countries, China also faced some special sources because of the allocative distortions in its previous economic system and consequently the room of efficiency improvement. However, how would it be possible to set a development strategy to explore the growth potential and to achieve sustainable economic growth during a process of transition? No experience could be referred to and the sole choice has been 'learning by doing'. China seems to have gleaned from its own experience in the process of transition. In the studies of the economic development of latecomers such as Germany in the 19th century, Gerschenkron (1962) argued that latecomers need to make special arrangements to compensate for their backwardness and they may find ways to do so. In the dynamic process of transition, internationalisation and industrialisation in China's reform period, did new development strategies and institutional forms that can promote economic growth emerge? How could the Chinese experience be incorporated into the development debate? Could other countries possibly learn from the 'lessons from China'?

1.5.1 The Best Practices Remixed: China's Development Strategy

Economic development remains an urgent global need. The past several decades show striking and growing differences between countries in their ability to develop. Although many developing countries have achieved impressive economic growth, some countries have become more marginalised and there are still over a billion people in the world living in poverty. Economic inequalities within countries remain large and there is little sign of convergence in incomes across counties (UNCTAD, 1997b). Long-term economic development should be the central policy objective of the governments of developing countries. However, there are intense disagreements among economists and public officials over the best way to achieve this goal and competing paradigms have emerged, leading in turn to very different policy recommendations. The disagreements are mainly about the role of the state in economic development and the optimal degree of economic openness. Taking both aspects into account, a simplified summary of the models of economic systems and the strategies for economic development is depicted in Figure 1-9. The positioning of China and some relevant economies as to their economic systems or development strategies are illustrated in this figure, which thus can demonstrate the intellectual sources of the Chinese model of economic development and to fit China into the ongoing development debates.

Figure 1-9 Models of economic systems and development strategies: typical examples in East Asia



One of the basic disagreements over the best way to achieve the goal of economic development regards the role of the state. The relation between the market and the state is one of the basic ones in economies and economics. A principal theme of Adam Smith's *Wealth of Nations* is that government regulation, let along central planning, is not necessary to make an economic system function in an orderly manner. The economy could be effectively coordinated by the 'invisible hand' of a system of prices.[53] A major task of economists since the publication of *Wealth of Nations*, argued by Demsetz (1988), has been to formalise this proposition. The Great Depression crashed the belief that the market is perfect by definition and made it more rational to coordinate industrial production by the forms of planning. The most extreme position was taken by Lenin, who argued that the economic system in Russia would be run as one big factory.[54] This idea precipitated the two great economic experiments in the 20th century – the socialist experiment and the experiment of economic transition.

After the establishment of the Soviet model of centrally planned economy, fundamental

[53] Smith, by the way, did see a role for governments in creating the preconditions for effectively operating markets and was not completely against state influence in other areas as well. Smith envisaged the tasks of government as highly limited and beneficent only in three areas: national defence, the administration of justice, and in certain large-scale infrastructure investment projects that private industry would no or could not pursue.

[54] It is the effort to find the equilibrium between using the market mechanism and existence of management in this big factory that lead Coase introducing the concept of transaction cost into economics (Coase, 1992). Coase developed economic understanding by breaking the hypothesis of the non-existence of transaction cost. Another breakthrough took place at the same time by breaking the hypothesis of free competition and introducing concept of monopoly.

differences lied between two basic models of economic regimes (or overall economic institutional arrangements) – the market economy and the planed economy. First, in terms of resource allocation, market economies rely on decentralised decision-making and the basic mechanisms of market – price and competition, while planned economies rely on central planning. Secondly, in terms of property ownership and incentives, market economies are based upon a system of private ownership, while planned economies rely on public ownership of the means of production. With respect to the market-state relationship, the model of centrally planned economy, which served for many years as the clear polar alternative to the variety of market economies, goes to one extreme – government plays a dominant role in the economy both as the sole owner and as the core decision-marker. There are varieties of institutional arrangements and economic performance within the planned economies; however, the generally miserable economic performance of them led many observers to appreciate the superiority of the market economy. In one sense market capitalism has emerged the victor in a war of competing economic ideologies that has been waged for much of the 20th century.

Significant varieties have also existed among market economies. With national systems of market economy differ from one another in many aspects, differences in the following two areas are worthy of particular attention: 1) the role of the state in the economy, 2) the system of corporate governance and private business practice. According to Gilpin (2001), three dominant economies provide three archetypes: the American (or 'Anglo-Saxon') system of market-centred capitalism, the Germany (or Western European) system of 'social market' capitalism, and the Japanese system of state-led developmental capitalism. With regard to the role of the state in the economy, there are some generally accepted basic functions of the state, including the production of pubic goods, the redistributive activities and macroeconomic stabilisation. Despite this common belief, however, matured market economies diversify from the generally laissez-faire, non-interventionist stance of the United States to the Japanese state's crucial role in economic development. Western European states play a more significant role in the economy than the United States, but are less interventionist than Japan. With regards to the system of corporate governance and business practices, American, Western European and Japanese firms organise their economic activities (such as financing and production) in varying ways.

The American, Germany and Japanese model of market economies were claimed superior at one time or another as one model outperformed others during a specific period of time. The Japanese model of state-led development obtained specific attentions in the 1980s thanks to Japan's success in terms of growth and international trade. Interests in the Japanese model were reinforced by the rapid industrialisation of the NIEs in East Asia. In the 1980s much of the literature concerned with East Asia's high levels of economic growth focused on the reliance on market fundamentals and limited government intervention. It was argued that the success of these economies was due to their reliance on the market, the openness of their economies and the export-led strategies. In the late 1980s, the theory of developmental state arose, presenting a different interpretation of the 'East Asian Miracle' and a revisionist critique to the neoliberalism.[55] According to this stream of theory, the rapid economic growth of Japan and the East Asian NIEs (particularly South Korea and Taiwan) was due to their adoption of the state-led development model in which

[55] See Core (2000) for a detailed discussion of the 'orthodox' school and the 'heterodox' school of development thinking. See Amsden (1994) and Gilpin (2001) for the accusation of the World Bank interpretation of the 'East Asian Miracle'.

the state played a key role in guiding economic development. This interpretation emphasised the state orchestrated oligopolistic competition and the government intervention so as to 'get the price wrong' (Amsden, 1989), presenting an opposition to the neoliberalist approach.

The development of South Korea has strong parallels to that of Japan, including the dominance of the powerful role of the government, the giant conglomerates, the intimate government-bank-industry relationships, the rapid import and implementation of foreign technology and the export-orientation of growth (Kennett, 2001). Nevertheless, with different initial conditions[56], processes and strategies of industrialisation, South Korea and other East Asian economies were not merely followers of the Japanese model, but presented alternative models of development characterised by the combination of government-led development (an even stronger version than Japan's) and a high degree of economic openness.

The impact of economic openness on economic growth has been one of the topical issues of the traditional development economics for a long time. The role of trade policy (in particular import substitution versus export promotion strategies) has been the focus of considerable academic efforts. The 1950s saw a great emphasis on import substitution as a means to industrialisation and growth, which was strongly influenced by Singer and Prebisch (Singer, 1950), who argued that the terms of trade facing developing countries for their traditional exports were deteriorating and suggested it was necessary both to industrialise and to control the increasingly expensive imports. Import substitution was particularly influential in Latin America. This argument led to the literature on North-South modelling, which variously included the possibility of differences across countries in endowments, market structure and technology.[57] Since the 1960s, some questions about the recommendation for import substitution were brought forward and investigated carefully. In response to these investigations and to the experience of both the more planned and less trade-oriented countries on the one hand and the less planed and more trade-oriented countries on the other, view started to change (Stern, 1989). By the mid-1980s, export promotion on growth had become a dominant theme, suggesting that there was strong positive relationship between outward orientation and economic growth (World Bank, 1988). With the theoretical development, there has been considerable progress in trade policy reform in most developing countries, turning from an import substitution strategy to an outward oriented approach.

Since the mid-1980s, most developing countries also undertook substantial revisions in their FDI polices, with a view towards incorporating inward FDI into their development strategies (UNCTAD, 1999). Until well into the 1980s, most developing countries had maintained widespread restrictions on FDI and the literature on MNC's role in development processes revealed controversial conclusion. The change reflected the changing attitudes of developing country governments towards MNCs. Prior to the mid-1980s, the general attitudes reflected considerable suspicion and MNCs encountered hostility and resentment in host countries (see e.g. Caves, 1982). Many developing country governments treated MNCs as part of 'development problem' rather than a solution. The

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[56] Japan began industrialisation in the late 19th and the early 20th Century. After the Second World War, Japanese imperialism had left a legacy of physical infrastructure, an educated population, and effective institutions that favoured economic development (Gilpin, 2001). South Korea, on the other hand, still had a largely agrarian economic with 65 percent of the workforce in agriculture in 1961 (Kennett, 2001).

[57] See McIntosh (1986) for a survey.

successful development experience of some developing economies that heavily attracted FDI inflows provided example of the positive roles of MNCs. After decades of scepticism, there was a shared belief that MNCs can be an important element in a country's development strategy (Rodríguez-Clare, 1996). Governments began to recognise that MNCs could provide a package of external resources that can contribute to development. MNCs are similar to large local firms but have much to offer in terms of their proprietary assets, or ownership advantages. The mobile assets of MNCs consist of capital, technology, managerial know-how and market access. Through process of investment and refinancing, MNCs bring in these mobile assets to developing countries. MNCs have increasing been recognised as one of the principal vehicles for the international transfer of technology and managerial know-how.

The debt crisis of the early 1980s[58] signalled the failure of the development strategy based on import substitution and government intervention, which most developing countries in Latin America, South Asia and Africa had pursed since the Second World War. This traditional strategy of development emphasised import-substituting industrialisation and assigned a relatively dominant role of the state in the economy. Although the state in this model was not as dominant as that in the centrally planned economy, the economy was largely controlled by the state and was to some extent centrally planned. The traditional development economics, which was predominant before the 1970s, provided rationale for this 'planned' (or government controlled) development model. Development economists assumed that there were fundamental differences between developing and developed economies and argued that neoclassical economics were inapplicable to developing countries because of their special conditions. Furthermore, a number of market failures were prevented from economic development without interventionist state and international assistance.

Up to the mid-1980s, most Latin American economies had very restrictive trade regimes, very intrusive and large government sectors, and severe macroeconomic imbalances (high inflation and large current account deficits) (Corbo, 2000). In these countries, the debt crisis set the stage for the introduction of widespread reforms that dramatically changed the traditional development strategy. The neoclassical belief in the free market prevailed in academia and the doctrine of Structural Adjustment Program (SAP) became dominant in international institutions such as IMF and World Bank.[59] Neoclassical economists suggested that the principle source of underdevelopment was government intervention that hampered market mechanisms, distorted incentives and actually worked against economic development. They argued that macroeconomic stability, competitive markets, economic openness and 'market-friendly' polices [60] constitute the fundamentals for economic development. The liberalisation of FDI policy was also part of the conditionality in the SAP and was promoted by the IMF and the World Bank.

Both the success of the East Asian economies and the failures of many other developing

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[58] The debt crisis surfaced in Mexico in 1982 and spread rapidly throughout the developing world, especially in Latin America.

[59] A debtor country applying for financial assistance from the IMF or the World Bank had to commit itself to the SAP, the packages of reforms characterised by macroeconomic balance, export-led growth, reduction of the state involvement in the economy and liberalising economic activities. The SAP was initiated by the US Secretary of the Treasury James Baker in 1985 as a respond to the reassessment of the debt crisis in the early 1980s and the East Asian success in the 1960s and 1970s.

[60] The 'market-friendly' strategy of development was put forward by World Bank (1991).

countries, especially those suffering from the debt crisis in the 1980s, were attributed to the involvement of states in economies. This controversy can be explained if we distinguish the different roles played by the states in these two categories of developing countries. In the East Asian economies, governments played a guiding role in economic development, mainly by the means of carefully devised incentives. The governments identified specific industries, which are perceived to be critical for economic development, and directed resource allocation towards selected industries. The policy instruments used by these governments have been principally based on the function of the market mechanism. The governments did not own and operate manufacturing and service enterprises, nor did they directly intervene and tightly regulate the commodity markets. Contrary to this state-led model, the state-controlled model in many other developing countries prior to the 1980s posed direct government controls over economic activities. The government owned and operated not only public utilities and infrastructures but also, in many countries, manufacturing and service enterprises. The states also intervened in many markets of commodities. Financial intermediates were either publicly owned or tightly regulated. Controls on foreign trade and FDI were extensive and the economies were inward oriented.

The East Asian models were generally characterised by well-functioning markets, an open economy, proactive industrial policy, and close ties among government, banks and industry. The intimate government-bank-industry relationships facilitated channelling bank capital into promising industries and thus promoted rapid industrialisation. This system of 'alliance capitalism' (Wade, 1990) worked efficiently for decades until the breakout of the financial crisis in 1997.[61] This crisis brought the question about the sustainability of the East Asian model of development to the front. Under the condition of the government control of financial markets and the capital account, this model worked efficiently and with sustainability. However, as the domestic and international financial context changed dramatically in the 1990s, the vulnerability of the financial approach of the East Asian model became apparent. On the one hand, capital account convertibility and the increasing reliance on short-term foreign portfolio investment exposed the domestic financial markets to the pernicious behaviour of the international financial markets. On the other hand, the intimate government-bank-industry relationships and inadequate financial regulation encouraged questionable overinvestment and irrational lending and made banks vulnerable to a shock that would cause firms to default on bank loans.

The Chinese economic system *status quo* can be considered as a hybrid of the American system of market-centred capitalism, the Japanese system of state-led developmental capitalism and the legacy of the centrally planned economy. The low significance of government spending (particularly redistributive spending) and the large gap between the rich and the poor highlight the departure of the Chinese model from the Western European system of 'social market' capitalism. The common features shared by China and the East Asian NIEs are not only geographical, but also in the similarities of a number of structural characteristics. State facilitation of economic growth was conceived as a government strategy in both East Asian countries after the Second World War[62] and China during the reform period. Like the East Asian authoritarian capitalist states before their democratic

[61] The crisis started in Thailand and then spread to South Korea, Malaysia and Indonesia. The Philippines, Hong Kong and Singapore were affected but to a lesser degree. By 2000, the stricken nations had rapidly recovered from the crisis.

[62] State facilitation of economic growth was conceived as an anti-Communist strategy in East Asian countries as allies of the United States after the Second World War (Rustow, 1960).

transformation, China has a single-party political system and a strong government. The other common feature of China and the East Asian NIEs includes the industrial and financial approaches to promoting industrialisation and their commitment to economic openness. The economic system of China is still far from a matured model and will possibly undergo dramatic changes in the future. The ongoing processes of transition, internationalisation and industrialisation will continue to shape China's economic system and accordingly define the future of the Chinese economy. The Chinese government and the development strategy adopted by it will play a key role in this process.

In terms of development strategy, the Chinese model up to now is a hybrid form of strategies advocated by various streams of development theory. China had followed an economic development model patterned on the centrally planned economic system for almost three decades. In the process of economic transition, China gradually abandoned central planning and moved toward a market economy in which markets played the central role in resource allocation – this generally reflected the neoclassical emphasis on the central role of the market. With respect to the political system, the Chinese model shares some similarities with the East Asian NIEs.[63] In addition, some components of the East Asian strategy for economic development are applicable to explain China's economic growth. Foremost among these elements was the economic openness that is widely accepted as a strategy for economic development, highlighted by the policies of export promotion and FDI attraction. China also followed the government-led development model of Japan and South Korea, in which proactive industrial policy and intimate government-bank-industry relationships played vital roles. In an overall environment of economic transition in which the legacy of the planned economy still exist, the industrial and financial approaches of Japan and South Korea was very appealing to the former planners who were still in power. On the other hand, state ownership, the weak corporate governance and a decentralised government structure facilitated the intimate relationship between the state-owned banks and enterprises.

The rethink of the East Asian financial crisis and the recognition of the cumulating problems in its own financial system led China to pursue further economic and financial reforms to build up market-supporting institutions largely based upon the US system of market-centred capitalism, which clearly demonstrated a revision of the previously most influential Japanese and South Korean model. In terms of bank-industry relationship, Chinese commercial banks are not allowed to own the equities of industrial firms, as in the US system. The differences between the Chinese development model and that of Japan and South Korea also lie in three other aspects. First, the decentralised central-local relationships and the proactive roles played by the localities in China are apparently different from the Japanese and South Korean models. China's decentralised model provides another example with how regional development could occur in a continental sized market economy; and the combination of the developmental state and the developmental localism becomes one of defining features of China's development model. Second, the increasing reliance on inward FDI for technological progress, export markets and economic development also signed a departure from the Japanese and South Korean model, which has a systematic exclusion of foreign capital. But it showed similarities with the FDI-led development model adopted by some other East Asian countries with

[63] As argued by Chow (1997), South Korea, Taiwan (until late 1980s) and Singapore practiced a single-party political system. Although Japan had a multiparty system, the country was ruled by the Liberty Democratic Party from 1958 to 1994.

relatively small economies such as Malaysia.[64] The Chinese model can be generally characterised by the collaboration between developmental state and MNCs. Third, the rapidly changing industrial organisation structure and the diversity of firm ownership demonstrate another main difference from that of Japan and South Korea. Much of the debate on this issue has been over whether the Japanese *keiretsu* model or the South Korean *chaebol* model is appropriate for China.[65] Japan's recent troubles and South Korea's involvement in the East Asian financial crisis have given pause to many advocates of these models (Perkins, 2002). Japanese *keiretsus*, South Korean *chaebols* and Chinese large-scale SOEs are all supported by some forms of government policy. However, the fundamental discrepancy between *keiretsus/chaebols* and Chinese SOEs is that the former are private owned conglomerate, while the latter are generally public owned despite some recent efforts for ownership diversification of SOEs (see Subsection 2.1.3 for a detailed discussion). Thus the nature of corporate governance and the related agency problems in China are different from that in Japan and South Korea.

1.5.2 Lessons from China: Institutional Issues in Reforms

China's experience highlights the increasingly recognised principle that 'institutions matter' for understanding the diverse economic performance of different countries. On the surface the economic changes took place in China during the reform period may be thought of as purely market phenomena. However, if we seek to understand the causes and consequences of the phenomena at a deeper level, we are compelled to take institutional aspects into account.

Institutions can be considered as the humanly devised constrains that structure human interaction (North, 1990). Institutions can be formal rules and informal constrains. Formal rules include political and judicial rules, economic rules, and contracts. Informal constrains cannot be as precisely defined as formal rules. They include conventions, norms of behaviour and self-imposed codes of conduct. After new formal institutions are introduced, tension may be created since indigenous, informal rules are inert and difficult to change. As a result nascent institutions may be neither enforceable nor functional. The experience of Chinese transition suggests that it is important to consider the interactions between various institutions, not only formal rules but also informal constrains, so that institutions that are newly introduced or pre-existing mutually reinforce each other. The resulting synergies can help to maintain the stability of society and macro economy and to generate a driving force propelling reforms and growth.

With respect to the origins and enforcement of institutions, another stream of theory considered institutions as an equilibrium of a game. Different from the rule-of-the-game

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[64] Except for Japan and South Korea, most East Asian economies have relatively high level of inward FDI. Some economies, Hong Kong, Singapore and Malaysia are more notable. None Asian examples of FDI-led growth include some developing countries in Latin America (such as Brazil and Mexico), some CEE transition economies (such as Czech Republic and Hungary), and some developed countries (such as Ireland).

[65] The development of large industrial group was associated with the SOE reform in China. In 1991, 55 large-sized SOEs were identified for the experiment of establishing large industrial groups. In 1997, the number of these experimental groups increased to 118. For the discussions of the development of large-sized SOEs, see Nolan (1995, 1996), Lo (1997), NBSC and the State Council Development Research Centre (1999, in Chinese), Lo (1999), Nolan and Wang (1999), Smyth (2000) and Sutherland (2003). For a discussion of the analogy between the Chinese promotion of large industrial groups and the Japans and South Korean model, see Sutherland (2003).

approach which tends to subscribe to the view that rule-making is susceptible to conscious design by legislators, public officials and economists, the institution-as-an-equilibrium approach subscribes to the view of an institution as a 'spontaneous order'[66] or a self-organising system. The former approach takes the rules of the game as exogenous, while the latter approach considers the rules of the game as endogenously generated and thus self-enforcing through the strategic interactions of agents, including the enforcer.[67] The precondition for the emergence of a new institution is that agents' action-choice rules become mutually consistent and convergent believes among agents being induced (Aoki, 2001). The reason why governments so often fail to implement policies which economists consider to be efficiency enhancing lies in the impact of the political constraints on reform plans (Dewatripont and Roland, 1992) and the uncertainty regarding the distribution of gains and losses from reforms (Fernadez and Rodrik, 1991). The Chinese experience illustrates that institutional reforms could be designed in a manner with more certainty to benefit the majority of the society, without creating many and/or big losers. The potential benefits for agents from the proposed reforms made the interaction between agents (also the enforcer) more favourable for the emergence of a new institution and made the newly introduced 'rules of the game' more enforceable.

The equilibrium view of institutions does not imply that institutions are rigidly frozen; they do change. China's experience of economic transition provides lessons for policy reforms, with specific relevance to the transition from centrally planned to market-oriented economy. The Chinese experience demonstrates that reforms can be implemented fluently in an appropriate, not necessarily optimal, sequencing, and in a gradual, evolutionary and experimental manner. How could a 'revolution' take place in an evolutionary manner? The Chinese experience illustrates that a relatively stable political and macroeconomic situation is helpful to the implementation of reforms. The Chinese experience supports the argument that a single-party political system is consistent with a market economy (Chow, 1997).

Economic transition is a program of policy reforms aiming at fundamentally changing the overall institutional arrangements of an economy from centrally planned to market-oriented. The complex linkages, interactions and complementarities between different institutions lead to the multiplicity and robustness of the overall institutional arrangements of an economy. How to implement a transition from one overall equilibrium to another, given this multiplicity and robustness? The challenge of reform facing transition economies is not so much about knowing where to end up, but about searching for a feasible path toward the end point. China's economic transition can be viewed as a path-dependent evolutionary process in a piecemeal manner, which fits Popper's notion of 'piecemeal social engineering' (Qian, 2000a).

Another main lesson from the Chinese experience is that considerable growth is possible with 'sensible' but not necessarily optimal institutions (Qian, 2000b). As Shleifer and Triesman (1999) argued, China's transition shows not about what is desirable, but about what is feasible. It is important to distinguish the concepts of the conventional, best-practice institutions from the alternative, feasible 'transitional institutions'. The transitional institutions reflected what could be done practically rather than what should be done in an ideal world. In the process of China's economic transition, some institutional arrangements were not a straightforward copy of best-practice institutions of matured market economies, but elaborately designed and implemented transitional institutions. On

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[66] See Hayek (1973).

[67] See Aoki (2001) for a detailed discussion of the institution-as-an-equilibrium approach.

the one hand, the transitional institutions fulfilled the basic institutional objectives, unleashing the fundamental forces of incentives, competition, price mechanism, hard budget constraints and decentralised decision-making. On the other hand, with regard to specific initial conditions, the rigidity of pre-existing institutions and the inertia of agents, the transitional institutions made reforms practically enforceable and politically acceptable. However, 'transitional institutions' were usually based on 'particularistic contracting' that were unsustainable and might have serious 'side effects'. For example, the dual-track price reform between 1984 and 1991, the 'contract responsibility system' in SOE reform between 1984 and 1988, and the 'fiscal contracting system' in government reform between 1982 and 1993 all realised particular objectives of reform but also produced unexpected 'side effects'. Thus all of these transitional institutions implemented in the first phase of transition were superseded by the best-practice institutional arrangements in the second phase of transition (see Section 2.2 for a detailed discussion).

Back to a fundamental question raised by this chapter: is China's economic success the result of its discovery of new institutional forms or the result of the convergence of its economic institutions to those of matured market economies? In the process of China's economic transition, some new institutional forms did emerge. However, these innovative forms of institutional arrangements were mainly transitional institutions that aimed to fulfil the same basic institutional objectives as introduced by the conventional, best-practice institutions. The transitional institutions can be more effective than the best-practice institutions for a particular period of time, especially in the beginning period of a reform when facing constraints from specific initial conditions, pre-existing institutions, or political resistance. The transitional institutions were generally taking the form of 'particularistic contracting'. Therefore, compared with the best-practice institutions, the transitional institutions have unexpected side effects and are unsustainable due to the information asymmetry in contract negotiation and opportunism in contract implementation. Thus, for China, transitional institutions, under certain condition of institutional constraints, represented a feasible direction for institutional evolution towards the best practices. For other countries, the logic rather than the contents of the transitional institutional arrangements in China's reform period provides some general implications for institution building.

2 Problem Definition

Through twenty-some years of transition, the Chinese economy has been transformed from an economic system without competition to a system in which competition plays an essential role. To some extent, the process of transition is a process of introducing competition into the economic system. The introduction and promotion of competition have played a crucial role in market creation, enterprise development and institutional innovation. The introduction and promotion of competition during the reform period were based upon the function of relevant transitional institutions. While competition policy is widely recognised as a basic policy instrument to protect and promote competition and as a necessary institution to support market, a formal competition policy was not included in the list of necessary institutions to be built up in the 1990s. Although the process of competition policy legislation expedited after China's accession to the World Trade Organisation (WTO) in recent years, a clearly defined formal competition policy is still lacking in China. In the reform era, free trade and market entry have acted as a substitute for competition policy. Particularly, inward Foreign Direct Investment (FDI) has introduced an important competitive force into Chinese industries. However, the impact of inward FDI on market competition and industrial development remains largely unclear. After the WTO entry, probably more FDI will flow into China and Multinational Corporations (MNCs) will play an increasingly important role in the economy. Therefore the research on the FDI impact on competition and industrial development and the policy implications of this impact become especially urgent.

Almost double-digit annual economic growth for more than 20 years as well as the complex structural transformation that took place simultaneously presents in many respects a 'miracle'. The first section of this chapter, Section 2.1, extends the macro level analysis of the Chinese context in Chapter 1 to the lower levels of analysis in order to come to a preliminary assessment of the recondite force of competition behind this 'miracle' of economic growth and structural transformation. In this section, the role of the introduced competition in market creation, enterprise development, regional economic growth and institutional innovation is assessed based on a review of the relevant literature. This account highlights the importance of competition for the Chinese model of economic development. Section 2.2 then addresses the challenges faced to sustain this model. This section discusses the role of market-supporting institutions in general and competition policy in particular for the sustainability of China's economic growth. To learn from the experience of other countries, this section also examines why and how competition policies were introduced by other developing economies, particularly the East Asian Newly Industrialised Economies (NIEs) and Eastern Europe and Former Soviet Union (EEFSU) transition economies which are the focus of the comparative studies in Chapter 1. The last section, Section 2.3, explores the relationship between FDI and the Chinese model of economic development and the general implications of this relationship for government policy. The analysis of the development effect of FDI is directed towards the industry level

in this section and a research agenda is set to investigate the impact of FDI on competition and the development of Chinese industries and to examine the policy implications of this impact.

2.1 Competition and the Chinese Model of Economic Development

The benefits of a market economy – greater efficiency and innovation in product markets – depend upon the function of the fundamental forces of incentives, competition, price mechanism, hard budget constraints and decentralised decision-making. Competition is one of these 'fingers' of the 'invisible hand' of the market, without each of which the market will not function well. The benefits of a market economy also depend on the operation of enterprises, the most basic units of organised production. Economic growth, far from relying solely upon the 'invisible hand' of market, has been firmly rooted in the development of enterprises, the 'visible hand' (term borrowed from Chandler, 1977) of resource allocation. Markets facilitate the transaction between firms and also provide a stage for firms to compete with each other. Competition has long been recognised as a major force bringing about economic development. In the 18th century Adam Smith pointed out that China's lack of competition with the outside world limited its growth and development prospects and allowed the persistence of the divide between the rich and the poor. The subsequent history of China seems to have illustrated Smith's prescience.

Competition arises whenever two or more parties strive for something that not all can obtain at the same time (Stigler, 1987). Competition can take place among individuals, organisations and jurisdictions, in both market places and political arenas. This study focuses on the competition among firms taking place in industries and markets.[1] To what extent has the previous introduction of competition in the Chinese economy delivered positive effects? A better understanding of the role of competition in shaping China's economic growth and structural transformation can provide a firmer foundation on which to make economic policies in China. The role of competition in transition and the importance of establishing a system of competitive markets have long been acknowledged by Chinese economists.[2] During the reform period, many institutional changes aimed to inject competition into the economy. Competition was introduced into the economy at the macro level between plan and market tracks during the process of price reform, which created most product markets, and at the micro level between firms, which compete with each other in newly created markets. China's economic transition can essentially be

[1] The narrow concepts of 'market competition' and 'industrial competition' were proposed by Stigler (1957). The term 'market competition' (competition in product markets) refers to the competition within a product market without the entry and exit of firms. The term 'industrial competition' is applied when there is free mobility of resource across industries, i.e. the free entry and exit of firms.

[2] Jinglian Wu has been an advocate of the establishment of a competitive market system since the 1980s. In 1990 when the direction of reform was under heated debate, Wu was adherently stress the importance of market and competition (see Wu and Liu, 1991, in Chinese). To some extent, this study is an extension and interpretation of Wu's argument at the industry level and in the FDI filed. Justin Yifu Lin has been another influential advocate of competition, especially in the area of SOE reform. He stressed that competition rather than ownership was more effective to solve the agency problem for SOEs (see Lin *et al.*, 1997, in Chinese). The debate between Justin Yifu Lin and Weiying Zhang on the relative importance between ownership and competition in SOE reform reflected the one of the main theoretical debates on SOE reform and enterprise development in the 1990s (see Zhao, 1999, for a discussion). The role of competition on privatisation has also been recognised by Weiying Zhang (see Li *et al.*, 2000)

characterised as an incremental and experimental process, which allowed the pre-existing inefficient sectors to exist, while at the same time introduced the new efficient sectors. The rivalry between pre-existing and newly entered sectors provided the basic mechanism for the logic of incremental and experimental reform. As this approach of reforms reduced resistance and lowered risk, the rule of 'survival of the fittest' guaranteed the prevalence of the efficient sectors, usually the newly entered ones. Resource reallocation from pre-existing to new sectors took place in a gradual manner, not only ensuring the improvement of welfare and efficiency, but also providing an effective compensatory and stabilising mechanism. This process contributed to the economic growth and structural transformation through shifting resources toward more efficient sectors by the basic mechanism of competition, which ensured the 'survival of the fittest', freed up resources and promoted efficiency.

2.1.1 Competition and Market Creation

In the first phase of the economic transition in the 1980s, the basic institutional framework of central planning remained largely intact. Meanwhile new competitive forces were injected into the economy through transitional institutions. Competitive product markets were created by curtailing central planning and moving towards market-based prices. The dual-track price reform was based upon the logic of continual enforcement of the central planning while simultaneously liberalising markets. Under the plan track, economic agents were assigned rights to and obligations for fixed quantities of goods at fixed planned prices as specified in the pre-existing plan. Meanwhile, a market track was introduced under which economic agents participated in the market with free market prices, provided that they fulfil their obligation under the plan. Based upon the logic of dual-track reform, prices were liberalised at the margin while infra-marginal plan prices and quotas were maintained for some time before being phased out. Because the planned quota was frozen, the market was able to grow out of the plan (Naughton, 1995). By 1993, dual-prices in the market had almost ended for most industrial products. In retail, the plan track accounted for only 5 percent while in agricultural procurement accounted for approximately 10 percent. In the second phase of the economic transition in the 1990s, the scope of government pricing further narrowed down. According to the pricing catalogue issued by the State Council, the prices determined by the government decreased from 141 categories of commodities in 1992 to 13 categories in 2001. Government pricing accounted 2.7 percent in all consumer goods.[3]

Factor markets were created in the reform process and the prices of labour, capital and land were increasingly determined by markets. Prior to the reform, the overwhelming majority of the labour force was either engaged in rural communes or employed by urban State-owned Enterprises (SOEs). The government determined the allocation of labour. Wage change and labour mobility were tightly controlled. During the reform period, China's labour force experienced fundamental transformation and rural non-farm labours and urban employment in the non-state sector have growth rapidly. By the end of the 1990s, about one third of the rural labour force had been in the non-agricultural sector and about three fifth of the urban labour force had been outside the state sector (Fleisher and Yang, 2003). Crossing the rural and urban labour markets, 77 million rural migrant labours

[3] According to Beijing Normal University (2003, in Chinese).

worked temporarily in cities in 2000 (Cai, 2003). The emergent labour market created by relevant reform measures played a key role in this large-scale reallocation of labour. In the reform era, a financial market with a separated structure of banking, securities and insurance has been created. The consequent establishment of the China Securities Regulatory Commission (CSRC) in 1992, the China Insurance Regulatory Commission (CIRC) in 1998 and the China Banking Regulatory Commission (CBRC) in 2003 created a separated regulatory structure accordingly. Although the urban land in China is state-owned, a land market emerged as a land-renting system built according to the Hong Kong model has been introduced into Chinese cities since 1986. For industrial land usage, land renting was applied to Foreign Invested Enterprises (FIEs) as early as in 1979.

As product and factor markets were being created, the boundary between the market and the state was redrawn. Sequential structural reforms of the government redefined the role of the government in the economy and substantially reduced government intervention in the economy. In the first phase of transition, despite an early reform in 1982, the basic government structure had been kept intact from the era of planned economy until the late 1980s. Most SOEs continued directly under the authority of governmental supervisory agencies, such as the industrial ministries at the central level and the sectoral bureaus at the provincial level. The government reform implemented in 1988 first claimed to transfer the economic role of government from direct to indirect administration and emphasised to strengthen macroeconomic management as well as to reduce microeconomic regulation. The National State-owned Assets Administration Bureau (NSAAB) was established, implementing the function of state-owned asset administration. In the beginning of the second phase of transition, the 1993 government reform was implemented in the background of the reorganisation of market economy as the goal of reform. It aimed to adjust the role and framework of the government to fit the market economy. In the 1998 reform, the government abandoned the function of SOE management to further adapt to the market economy and the scope of industrial management further decreased. Through these rounds of reforms, the government bureaucracy was largely streamlined and the structure based upon the Soviet-style industrial management ideas was transferred to a system focusing on macroeconomic management, which is largely consistent with other market economies. In a gradual manner, most industrial ministries were abolished or replaced by much smaller bureaus, which were then incorporated into the State Economic and Trade Commission (SETC). Nine out these ten bureaus were further transformed into one-government industrial associations (except for that of the tobacco industry). However, government regulation remained in many industries – some were associated with complicated system of administrative screening on investment projects and some were pursued in the name of industrial policy.

In 2003, at the beginning of third phase of transition, a new round of government reform was implemented to make the necessary adjustments to fit the government structure for the new situation after the WTO accession. The SETC and the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) were merged into the Ministry of Commerce (MOC) to work in line with the unification of the domestic and international commerce. The State-owned Assets Supervision and Administration Commission (SASAC) was established to execute the state ownership rights. The State Development Planning Commission (SDPC)[4] was transformed into the National Development and Reform

[4] The SDPC was transformed from the State Planning Commission (SPC) in 1998. In the era of planned economy, the SPC was responsible for central planning and was the central agency in the government system.

Commission (NDRC), incorporating the functions of the State Council Office for Restructuring Economic System[5] and part of the functions of the SETC.

In the early years of economic transition, although markets were created, the legacy of the planned economy remained and government regulation existed in most industries. As reform deepened, China's trade, investment and industrial policies were undergoing gradual revision. Increasingly, government regulation on market entry loosened and restrictions on competition in many industries were moved away in a gradual manner. This process first took place in the newly liberalised markets of consumer goods and then extended to the industries of production materials, driving the process of market creation. After 20 years' gradual liberalisation, the direct government control has retreated from most industrial sectors, except for a number of industries with military and strategic concerns. Within the service sector, entry barriers to financial services and telecommunications are still high. No non-state-owned firm has ever entered basic telecommunications. Although there has been a gradual process of foreign entry in insurance market since 1992 and in securities market since 1995, the openness of these markets is still preliminary and experimental. Non-state entry in the banking sector is rare with one exception of the establishment of Minsheng Bank in 1995 and some specific cases of private or foreign minority investment in small and medium-sized commercial banks.[6] Compared to the generally closed and highly regulated financial services, the retailing sector was opened earlier and the entry barriers have been largely reduced for major cities since the late 1990s.

2.1.2 Competition and Enterprise Development: Ownership Diversification

As markets were created and entry barriers were reduced, enterprises developed. While rapid entry of new private sector has been a feature of virtually all transition economies, enterprise development in Chinese transition is a variant of this more general process. The Chinese case demonstrates that the key feature of the process of enterprise development was market entry, rather than privatisation *per se*: market entry created competition and drove market development, leading to a decline in state controls and monopolies (Naughton, 1994). In the reform of the firm sector, no direct privatisation materialised in China until the mid-1990s. The most profound structural change came from the entry and expansion of a non-state sector. New market entries injected new competitive forces into markets. The new entrants competed successfully in markets and captured increasing market share from the previously dominant SOEs. With the rapid growth of industrial outputs, sizable shifts occurred in the ownership structure from the prevalence of SOEs to a more diversified pattern (Figure 2-1). In the late 1990s, the state sector, which includes either state-owned or state-holding companies, accounted for less than 30 percent of industrial output.[7] The percentage of wholly state-owned firms decreased to about 20

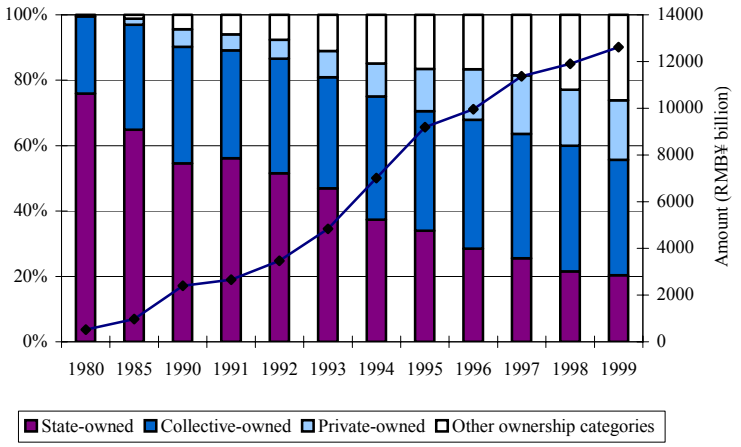
[5] The State Council Office for Restructuring Economic System was reduced from the State Commission for Restructuring Economic System in 1998, which had been responsible for the policies and strategies of the market-oriented reform since the early 1980s.

[6] For instance, some private owned firms have invested in the city commercial banks (controlled by local governments) in Guiyang, Yinchuan, Wenzhou, and Beijing, among others. HSBC, International Finance Corporation (IFC) and some other international financial institutions have invested in the city commercial banks in Shanghai, Nanjing and Xi 'an since 2001. IFC also invested in Minsheng Bank in 2003. In August 2004, HSBC invested US$ 1.747 billion to become the second largest shareholder of the Bank of Communication.

[7] The state sector includes wholly owned SOEs and state-holding companies within FIEs and joint-stock

percent.

Figure 2-1 Total industrial output 1980-1999: ownership composition



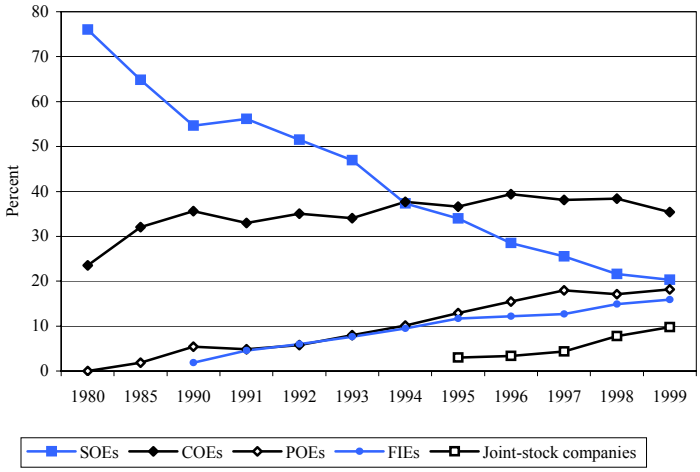
Source: National Bureau of Statistics of China (NBSC).
Note: 1) The amount of the total industrial output is of the price of each current year. 2) The data for 1991-1994 has been modified by the NBSC, according to the Third Industrial Census in 1995. Thus it is slightly different from the corresponding data in the almanacs of previous years. 3) Since 1998, the scope of industrial statistics has been changed from including all firms to the 'above-scale firms' (including all SOEs and non-state-owned firms with an annual turnover above RMB¥ 5 million). In order to make it comparable with previous years, the NBSC modified the data for 1998 and after. 4) Before 1996, the data for the state sector published by the NBSC is of all SOEs. After 1996, the data for the state sector is of the SOEs and the firms with state control. So there is overlapping in the data for different ownership categories. To make it comparable with previous years, the author modified the data, removing the overlapping part and changing the data for the state sector to purely state owned firms. 5) 'Other ownership' includes FIEs, joint-stock companies and firms of other categories of ownership.

The non-state sector has already become the bulk of the economy: the value-added of the non-state sector already accounted for 62.3 percent of Gross Domestic Product (GDP) in 2001.[8] The rapid growing of the non-state sector was driven by the expansion of Township and Village Enterprises (TVEs)[9], Private-owned Enterprises (POEs) and FIEs. The 'unexpected' development of TVEs marked the landscape of industrial growth in the 1980s. The rapid rise of FIEs, POEs and joint-stock companies (or 'companies limited by shares') was the impetus for the ownership structural change accelerated in the 1990s (Figure 2-2). Although the absolute level of SOE output increased steadily, competition from the non-state sector led to the rapid shrinking of the state owned sector in the relative term. Consequently, resources were increasingly allocated to the non-state-owned sector.

companies (Conversions of SOEs are a vital source of joint-stock companies and international joint ventures).
[8] According to the NBSC.
[9] TVEs were identified as collective owned enterprises (COEs). COEs also includes community (local government) owned enterprises in cities.

From 1992 to 2001, the percentage of the non-state sector in total fixed asset investment increased from 32.0 to 52.7 percent. In the same period, the percentage of the non-state sector in total city employment increased from 39.0 to 68.1 percent.[10]

Figure 2-2 Shares of various ownership categories in total industrial output, 1980-1999



Source: NBSC.

Figure 2-2 shows that the rapid expansion of TVEs, combined with the growth of POEs especially in the second half of the 1980s, led to the sharp shrinking of the share of SOEs in total industrial output in the 1980s. Early in 1979, the Commune and Bridge Enterprises (renamed TVEs later in 1984 as the commune regime abolished) were allowed to enter the industries that were not related to agriculture. In 1984, previous restrictions against TVE entry and expansion were further abrogated. Afterwards, TVEs achieved impressive growth: total rural industrial output increased more than five times between 1983 and 1988, much faster than any other category of firms. Thus it is not possible to understand the industrial reform in China without appropriately taking account of TVEs (Weitzman and Xu, 1994). On the one hand, the decentralised government structure, as addressed in Section 1.5, provided the basic institutional foundation for the birth of TVEs. On the other hand, the success of TVEs was largely due to a set of external conditions to which TVEs were an effective adaptation (Naughton, 1994). TVEs were classified by the Chinese government as collectively owned and were more easily able to survive the anti-private property ideology than private firms in the early years of reform. The vaguely defined ownership was thus an advantage of the internal institutional form of TVEs (Weitzman and Xu, 1994). Despite the great diversity in the organisation and management of TVEs, an important feature of them was the community (town or village) government control of firms (Che and Qian, 1998a). Through the institutional arrangements of TVEs, community

[10] According to the NBSC.

residents created forms of income sharing that might be optimal in the absence of an independent legal system (Nee, 1992). The local (community) government played a critical role in protecting TVEs in the environment lacking property right protection (Chang and Wang, 1994; Li, 1996). In a business environment without a well-developed capital market and with strong lending discrimination against POEs, TVEs could overcome the obstacle to obtain capital based upon the help from local (community) governments (Che and Qian, 1998b).

Like TVEs in the 1980s, FIEs became the leading force of industrial growth in the 1990s. Back in the late 1970s, foreign investors were allowed to establish FIEs, which need at least 25 percent foreign ownership. FIEs enjoyed special tax status compared with domestic firms. As foreign firms invested in China and engaged in local production, a new competitive force has been injected into domestic markets from abroad. Growing imports reinforced this process. The percentage of FIEs in total industrial output increased from 1.9 percent in 1990 to 15.9 percent in 1999. This rapid growth of FIEs reflected the contribution of FDI to China's industrial development in the 1990s. In recent years, FIEs continued to grow steadily: the percentage of FIEs in industrial value-added of the so-called 'above-scale firms' (including all SOEs and non-state-owned firms with an annual turnover above RMB¥ 5 million) increased from 19.1 percent in 1998 to 27.2 percent in 2003. Contrarily, the share of Collective-owned Enterprises (COEs), consisting of mainly TVEs, decreased sharply during the same period due to the large-scale TVE privatisation took place since the late 1990s. This large-scale privatisation of TVEs was a continuation of TVE privatisation in the mid-1990s in some provinces, such as Jiangsu and Zhejiang, and was encouraged by the ideological breakthrough at the 15th Party Congress in 1997, which recognised private firms as 'important component of the economy'. In fact, many TVEs were *de facto* POEs with a 'red hat' to protect them in the ideological environment perceived by the entrepreneurs to be uncertain. POEs experienced rapid expansion in the 1990s (see Figure 2-2). This was principally due to the ideological breakthroughs achieved since 1992, which provided increasingly friendly institutional environment for POEs. This POE development in the second phase of economic transition was a continuation of POE expansion in the first phase of transition, especially after the reform expanded to cities and private firms employing more than eight persons became formally legalised in 1984. Table 2-1shows the ownership structural change of industrial value-added in recent years.

Table 2-1 Ownership structure of the industrial value-added of above-scale firms, 1998-2003

Year	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*
Total industrial value-added (RMB¥ billion)	3,354.1	3,535.7	3,957.0	4,260.7	4,593.5	5,361.2
Industrial value-added of above-scale firms (RMB¥ billion)	2,004.6	2,030.7	2,368.5	2,695.0	3,148.2	4,104.5
FIEs (percent)	19.1	20.7	22.5	24.6	25.7	27.2
COEs (percent)	24.9	17.0	13.9	11.7	8.8	6.8
Joint-stock companies (percent)	6.7	14.7	20.9	30.0	36.8	41.1
State-owned and state-holding (percent)	56.7	57.1	59.2	56.4	52.8	47.3

Source: NBSC.

A striking feature of the ownership structural change in industrial output since the late 1990s was the rise of the joint-stock companies, which were usually listed in domestic or international stock markets. The rapid growth of joint-stock companies was mainly the result of a new round of SOE reform, which aimed to fulfil specific objectives through stock-market listings of qualified SOEs. These objectives included transforming SOEs into 'modern enterprises', establishing sound corporate governance accordingly, diversifying

the ownership structure of SOEs, and expanding the scale of direct financing for SOEs, which were relying too much on the State-owned Commercial Banks (SOCBs) for loans. In the 1990s, Chinese stock market grew rapidly, but mainly to fulfil the policy function of supporting SOE reform (Table 2-2). Although the listed companies in China have diversified ownership structure, the state is usually the largest shareholder because most joint-stock companies were transformed from former SOEs and the institutions of the Chinese stock market were designed to ensure the control of the listed companied by the state.[11] The institutional arrangements of China's stock market facilitated SOE reform but largely distorted the resource allocation function of the stock market in terms of directing capital flow to more efficient firms.[12] Furthermore, some specific transitional institutional arrangements, such as the untradablity of state-owned equity[13] and the separation of the A-share and B-share market[14], posed critical institutional deficits, which severely harmed the efficiency and future development of China's capital market. The path dependency of institutional change determines that these problems are not easily solved without causing severe consequences, highlighting the 'side effects' of transitional institutions.

Table 2-2 Number of listed companies in Chinese stock markets

Year	*Shanghai Stock Exchange*		*Shenzhen Stock Exchange*		*National total*	
	Newly listed	*Total*	*Newly listed*	*Total*	*Newly listed*	*Total*
1990	7	7	/	/	7	7
1991	25	32	6	6	31	38
1992	22	54	18	24	40	78
1993	72	126	52	76	124	202
1994	68	194	42	118	110	312
1995	15	209	9	127	24	336
1996	103	312	100	227	203	539
1997	85	397	121	348	206	745
1998	53	450	53	401	106	851
1999	45	495	52	453	97	948
2000	88	583	49	502	137	1,085
2001	78	661	1	503	79	1,164
2002	70	731	1	504	71	1,235
2003	49	780	1	505	50	1,285

Source: China Securities Regulatory Commission (CSRC).

[11] Most firms listed in Chinese stock exchanges were transformed from SOEs, with rare exception for some specific cases of other ownership. However, POEs entered the stock market mainly by the means of acquisition. The CSRC have authority over international stock-market listings as well.

[12] The situation has been partly changed since 2000 and especially after the 16th Party Congress in 2002 as more POEs were allowed to be listed. FIEs were also permitted to acquire listed companies and to be listed in the Chinese stock market.

[13] The stocks of listed companies are categorised into three types according to their holders – State-owned Shares, (State-owned and Non-State-owned) Legal Person Shares, and Public Shares. The State-owned shares and State-owned Legal Person Shares are untradable on the market.

[14] A-share market is the mainly part of China's stock market. A-share market is only open to domestic investors and the trading was in RMB. B-share market is a market established to attract foreign investment under the condition of capital account inconvertibility. B-share market was initially only open to foreign investors, and the trading was in foreign currencies (US$ in Shanghai Stock Exchange and HK$ in Shenzhen Stock Exchange). In 2001, the B-share markets were opened to domestic investors. There were totally 111 B-share listed companies in China's stock market until the end of 2003. Some companies are dual-listed in both A-share market and B-share market, which lead to serious price discrepancy.

2.1.3 Competition and Enterprise Development: SOE Reform

The enterprise development during the reform period has not only been achieved outside but also inside the state sector. The SOE reform has been one of the central concerns of China's economic transition since the beginning of reform. The early means of SOE reform mainly include the 'economic responsibility system' in 1981 and 1982, the 'tax substitute profit' program from 1983 to 1986, and the 'contract responsibility system' from 1987 to 1992. These reforms aimed to provide SOE management certain degree of autonomy, to introduce managerial incentives to maximise profits and to establish a contractual relationship between SOEs and their governmental supervisory agencies. Facing unexpected 'side effects' of the transitional institutions for SOE reform and deteriorating financial performance of SOEs, the Chinese government abandoned the transactional contracting and turned to the 'best practice'. In 1993, the decision was made by the Chinese government to establish the so-called 'modern enterprises institution'. Afterwards, a series of experiments focusing on 'corporatisation' were launched to transform SOEs into 'modern enterprises'.[15] SOEs were organisationally restructured into limited liability corporations according to the newly passed Company Law. They were required to form boards of directors, to hold shareholder meetings and to establish boards of supervisors.[16] The bodies executing the state ownership rights in SOEs were converted from the sectoral supervisory government agencies or enterprises groups into share holding corporations. The state assets under the control of share holding corporations were partially restructured into joint-stock companies, which were put into the frontier of the experiment of establishing 'modern enterprises institution' and were listed in stock markets and subjected to the supervision of the private shareholders. However, most listed companies had majority state ownership and were under the control of state-owned share holding corporations, which largely remained a homogeneous behavioural pattern as their predecessors.

The performance of the state-owned industrial sector prior to the mid-1990s provided controversial evidence of the effectiveness of the SOE reform. On the one hand, the state sector enjoyed sustained Total Factor Productivity (TFP) growth during the reform period, comparing with the productivity stagnation before reform.[17] TFP growth in the state sector was somewhat higher than two percent during the 1980s and it might hall to less than two percent in the early 1990s (Jefferson *et al.*, 1999). On the other hand, the profitability of the state sector declined despite the growth of FTP, especially in the 1990s (Figure 2-3). An explanation of the paradox of rising productivity and falling profitability is that the SOE productivity, while growing, appears to be lagging behind that of the non-state sector (Jefferson *et al.*, 1999). For instance, TFP by the collective sector, increased at an estimated annual average rate of 3.4 percent between 1980 and 1992, approximately 40 percent higher than the productivity growth of the state sector (Jefferson, 1999).

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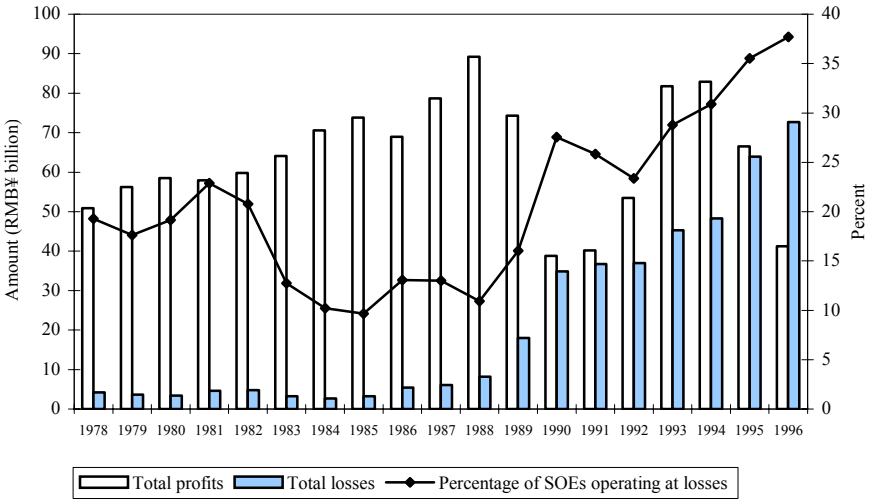
[15] In 1994, 100 SOEs were identified for the experiment of establishing 'modern enterprises institution'. The scope of this experiment increased to 2343 SOEs in 1996 and to 2700 SOEs in 2000.

[16] According to a survey conducted by the NBSC in 2000, which covered 2473 in the total 2700 SOEs undergoing 'modern enterprises institution' experiment, 81.5 percent had finished corporatisation, 82.2 percent had established shareholder meetings, 95.1 percent had formed borders of directors, and 84.5 percent had established borders of supervisors.

[17] See Jefferson *et al*. (1999) for an overview of a range of studies of TFP in Chinese industry.

Figure 2-3 Profitability of the state-owned industrial sector, 1980-1996



Source: NBSC.

The 'competition eroding profits' hypothesis provides convincing explanation for the phenomenon of falling SOE profitability. According to this hypothesis, the growing competition in industries caused by the entry of the non-state sector (particularly TVEs) since the 1980s has eroded the state's monopoly, causing profit rates to decline in the state sector (Naughton, 1992, 1995). Before the late 1980s, however, the decline of profit rates was not accompanied by a decrease of the total amount of profits (see Figure 2-3). Contrarily, firm level evidence demonstrated that the intensification of competition and the increase in managerial autonomy significantly improved the managerial incentives and contributed to the TFP growth (Li, 1997). Jefferson and Rawski (1994) argued that profit concerns and competition led to significant improvement in SOEs. According to Li (1999), SOE productivity had significant correlations with the degree of competition and openness in the region where SOEs were located. In the late 1980s and early 1990s, due to tight economic policy and weak economic environment, competition in industries further intensified, leading to the rapid deterioration of the financial performance of SOEs. Even as macro economy improved after 1992, total losses of the state sector continued to increase. In addition, large-scale entry of FIEs, especially MNCs, in the 1990s subjected SOEs to increased competitive pressures from outside. Consequently, the falling profitability of SOEs in the 1990s became very serious in the mid-1990s as profits declined sharply and losses continued to climb. In 1996, the total losses exceeded profits for the first time, highlighting the weak condition of the state-owned industrial sector as a whole.

With the intensification of competition, the weakness of SOEs compared with other ownership categories became apparent. The weakness of the state sector was partly due to the specific costs that SOEs had to bear. According to Qian (1996), SOEs carry two

categories of particular costs: the political cost (or bureaucratic cost)[18], which is caused by the political control from the government with non-economic objectives, and the agency cost, which is caused by the separation of ownership and control, a common feature of large modern corporation. The agency problem for SOEs is more complex than that for large corporations in market economies, as pointed out by Kornai (1992), because the government as principal has various non-economic objectives. Before the mid-1990s, without a social-welfare network, Chinese SOEs had to bear a heavy burden of retirement pension and other social-welfare costs and they had to employ redundant workers in order to fulfil the task of promoting employment and maintaining social stability.[19] These policy burdens, which were inherited from the era of planned economy, imposed substantial costs for SOEs and put them in a disadvantaged position in the competition with non-state-owned firms. Additionally, as the government offered various incentives (such as tax holidays)[20] to attract FDI, it provided an uneven playground for competition between SOEs (and other ownership categories of domestic firms) and FIEs. Lin and Tan (1999) argued that the root of the SOE problem is the separation of ownership and control and the soft budget constraints arising from the state-imposed burdens. Due to the problem of information asymmetry, it is very hard for the government to distinguish between the losses caused by policy burdens and the operational losses. Thu the state in practice has to be fully responsible for the poor performance of SOEs and, consequently, the budget constraint of SOEs become soft. This interpretation explained why the agency problems were not eliminated or mitigated by the intensification of competition in China's state sector, as normally the case in a market economy.

The deteriorating financial performance of SOEs in the mid-1990s posed serious threats to the economy, putting a drag on government income and economic growth and undermining the already weak, state-dominated banking sector. As a response to this crisis, a radical and fundamental shift was made in the strategy of SOE reform in 1996 and the policy of 'grasp the large and let go the small' was formulated. This policy had two folds of implications: first, strengthening the position of large-sized SOEs by abolishing policy burdens imposed on them and by providing supportive policy measures; secondly, revitalising the small and medium-sized SOEs by various measures of privatisation. To eliminate the policy burdens, a preliminary social welfare network was established in cities and abundant workers were laid off. SOEs shed 28.7 million workers between 1997 and 2000, approximately 40 percent of the state sector's workforce in 1997.[21] Meanwhile, most small-sized SOEs were privatised, which was referred to as a 'quiet revolution from below' (Cao *et al.*, 1999: 105). In 1996, 300 large-sized SOEs, which accounted for 47.4 percent of total industrial sales and 68.8 percent of total tax and profits, were identified as 'National Key Enterprises' (NKEs) subjected to the 'grasp the large' policy. In 1997, further 212 large-sized SOEs were identified as NKEs and the scope of 'grasp the large' was generally fixed to these 512 NKEs since then. After this identification of the 'national team' of industrial development, a package of policy measures was implemented to support the prestigious NKEs. These policy measures included: 1) favourable treatment of bank lending and direct financing, 2) large-scale debt restructuring and massive debt-equity

[18] See Kornai (1980, 1992) and Shleifer and Vishny (1994).
[19] See Lin *et al.* (1998a, Chinese version in 1997) and Lin *et al.* (1998b) for detailed discussions of various policy burdens.
[20] See Fu (2000) for a discussion.
[21] According to the NBSC.

swaps, 3) government-arranged mergers and restructuring, 4) more autonomy on international trade and foreign affairs, 5) preferential innovation policy measures, 6) specific training program for the top managers, and so on. Associated with the 'grasp the large and let go the small' policy, a program of 'strategic restructuring of the state-owned economy'[22] was implemented: some key industries were identified and a number of large industrial groups in these industries were established based upon government supported Mergers and Acquisitions (M&As) and restructurings. The support to NKEs, as well as the previous efforts to establish large industrial groups since the early 1990s, has clarified the policy to construct large enterprises on the basis of large-sized SOEs. This highlighted the similarity between the Chinese model and the Japanese and South Korean model of economic development in terms of the industrial organisation structure.

Concurrent with the efforts at corporatisation and worker layoffs, the supportive policy measures, especially large-scale debt restructuring and massive debt-equity swaps, directly affected the financial performance of SOEs.[23] In 2000, a turnaround was observed and substantial improvement of SOE profitability seemed evident despite the increasingly worsening of SOE financial performance in 1997 and 1998. The victory of a three-year reform program to revert the financial crisis of SOEs was declared. In 2000, state-sector profits reached RMB¥ 239.2 billion, albeit the still high level of losses at RMB¥ 62.4 billion. Although the organisational restructuring and worker layoffs did increase efficiency, admitted by the SETC, preferential policy measures accounted for the bulk of the state sector's improvement of financial performance. In recent years, the profitability of the state sector kept improving and the total profits increased to RMB¥ 378.4 billion in 2003. The contribution of the state sector to GDP has remained at a relatively stable level since the late 1990s (see Table 2-1).

Associated with the process of SOE reform has been the transformation of the regime of state-owned asset management. In 1988, the *ad hoc* government agency implementing the function of state-owned asset administration, the NSAAB was established. In 1998, the NSAAB was incorporated into the Ministry of Finance (MOF). In 2002, the 16th Party's Congress put forward the principle that the central government and local governments respectively executes the state ownership rights for the SOEs. In 2003, the SASAC was established to execute the state ownership rights at the central level. 189 large-sized SOEs were identified as 'Central Enterprises', which are under direct supervision of the SASAC. Meanwhile, a series of measures and policies for the control of large-sized SOEs, previously dispersed in various government agencies, have been concentrated to the SASAC. For instance, the right of the appointment and removals of the top managers has been transferred from the Party and administrative system into the SASAC and some open and market-oriented process of recruitment has been adopted to appoint high level managers of some 'Central Enterprises'.

2.1.4 Competition, Local Economic Growth and Institutional Innovation

Local economic growth is an important facet of China's economic development. According to a recent World Bank report, if China's individual provinces were considered as separate

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[22] See Wu (1998, in Chinese) for a detailed discussion.

[23] Except for several case studies that provided positive remarks (Huang and Wei, 1999, in Chinese; Zhao, 1999, in Chinese), the information about the financial performance of small-sized SOEs after privatisation is not available. So it is still not possible to assess the overall effect of the 'let go the small' policy.

nations, all twenty of the fastest growing nations in the world would have been Chinese for much of the past two decades. A number of scholars have recognised the primary role played by the local governments in China's economic development. This phenomenon of economic federalism has been termed as 'developmental localism' by Zheng (1994), 'local corporatism' by Qi (1992) and 'market-preserving federalism' by Montinola *et al.* (1995).

The function of the state and its relationship with the market and with firms, which has been discussed in Subsection 2.1.1, is one aspect of the issue of decentralisation. Another crucial aspect is the organisational form of the state itself (Dallago and Mittone, 1996). Accompanying with the redefinition of the boundary between the state and the market during the reform period, a decentralised governance structure was formed as the central government distributed some authorities to local governments at province and lower levels such as county, town and village levels. The autonomy given to local governments has decentralised decision-making and helped local economic growth. As argued by Qian and Weingast (1997), this decentralisation in China is a successful governance structure that increases governmental efficiency and preserves market incentives. The decentralisation could find its root in the era of planned economy. After the establishment of a Soviet model of central planning, China experienced two waves of administrative decentralisation in 1958 and 1970. As noted by Granick (1990), the peculiarities of China's planned economy could not be attributed solely economic underdevelopment and the decentralisation within China's state sector presented a clear departure from the standard model of former Soviet Union and Eastern Europe. During the reform period, the central government increasingly shared the authority of economic administration with the local governments, which were assigned to be in charge of the economic development in their jurisdictions. A system of fiscal decentralisation was implemented to divide the revenues and expenditures between central and local governments. The system of fiscal decentralisation was implemented through the institutional arrangements of the 'fiscal contracting system' before 1993. In 1994 a separated central and local taxation system was established to substitute the transitional institution of the fiscal contracting system. The arrangements of authority sharing and a system of fiscal decentralisation provided local governments strong incentives to promote economic development at the local level. Local governments, therefore, intensively engaged in the development of local firms, the attraction of the foreign firms and the promotion of sales of these firms in domestic and international markets. The partnership between local governments and firms leads to authority sharing in practice (Zhang, 2004).

Decentralisation led to rivalry between localities. Jurisdictional rivalry among local governments can increase efficiency through sorting and matching (Tiebout, 1956). It is also a necessary condition to create growing markets in the transition economies (Jin *et al.*, 1999). Inter-regional rivalry has provided an impetus for infrastructural improvement and institutional innovation at the local level and thereby contributed to local economic growth. In order to improve the performance of local firms, to attract foreign investment and to solve economic problems existing in their jurisdictions, local governments seek to improve the infrastructure and institutional environments at the local level. According to the World Bank (2002), rivalry among jurisdictions highlights successful institutions and promotes demand for them. Because of differences in local conditions, differences that range from development level to geography, one size doe not fit all in institutional building at the local level. However, some successful measures pioneered by specific local governments were applicable to other areas faced the same problems. These institutional arrangements could be simulated by others and spread among localities. Central government might notice the effectiveness of specific institutional innovation from local governments and would

possibly stimulate the expansion of these institutions. Experiment has been a key for institutional reform, often at the local level. Sometimes the experiment was designed by the central government and specific localities were chosen to implement. Sometimes, the institutional innovation were initiated by local governments and later recognised by the central government. The central government was important in validating a successful experiment and thus in accelerating its spread around the country. For instance, most measures for SOE reform implemented in the 1980s nationwide were first innovated by local governments. The radical policy of 'grasp the large and let go the small' was also initiated by the local governments for small and medium-sized SOEs at the local level[24] and later acknowledged and promoted by the central government on a national basis. According to Zhang and Li (1998, in Chinese) and Zhao (1999), inter-regional rivalry contributed significantly to the institutional innovation in SOE reform. Li *et al.* (2000) demonstrated theoretically how inter-regional competition in product market stimulates the privatisation of SOEs and COEs.

Inter-regional rivalry led to rapid economic growth of a large number of provinces but created a growing disparity in economic performance among regions, especially between the costal and interior provinces. Inter-regional rivalry also led to regional protectionism and deteriorated the problem of market fragmentation, which provided serious challenges for China's long-term economic development. The disparity between the costal and interior regions emerged and strongly expanded during the reform period. This disparity was due in part to the gradual regional expansion of economic reform and openness, which has been one of the most major features of China's gradualist and experimental approach of economic transition. The reform and openness of the Chinese economy was initiated in the southern provinces of Guangdong and Fujian, and four Special Economic Zones (SEZs) near Hong Kong, Marco and Taiwan were established to be both the frontline and the experimental fields for economic transition. The reform and openness expanded to 14 costal cities, Hainan Island and specific costal areas sequentially in the 1980s. In the 1990s, the economic openness further expanded to almost the entire country gradually (see Démurger *et al.*, 2002, for a chronology of the regional expansion of reform and openness). The pioneering costal cities and regions in economic openness obtained the first-mover opportunities to absorb foreign capital, technology and managerial know-how earlier than their interior counterparts. This preferential policy treatment from the central government has provided them advantages over the inland. The geographic advantage of the costal area broadened the gap. Although substantial disparity in regional incomes is a common phenomenon in geographically large country, the disparity between costal and interior areas in China has become a severe problem. Public concern for regional income disparity in China has been increasing significantly since the early 1990s. The ambitious 'Development the West' strategy promoted by the central government has been the strongest effort to develop the Central and Western region and solve the serious problem of regional disparity. The origin and consequences of China's regional inequality has been widely studied in recent years.[25] Despite manifold approaches adopted by various studies, the central message is that the preferential policy treatment towards the coastal provinces

[24] According to Pan (1997, in Chinese), Chongqing was among the first to implement the policy of 'grasp the large and let go the small'. Zhao (1999) argued that Shandong Province was an earlier and more typical example.

[25] See Lyons (1991), Tsui (1991), Lee (1994), Chen and Fleisher (1996), Jian *et al*. (1996), Tsui (1996), Fleisher and Chen (1997), Raiser (1998), Wu (1999), Song *et al.* (2000), Démurger (2001), Zhang (2001), Zhang *et al.* (2001), Bao *et al.* (2002), Cai *et al.* (2002), Démurger *et al.* (2002) and Jones *et al.* (2003).

and SEZs was largely responsible for rising regional disparities (Démurger *et al.*, 2002).

2.2 Sustaining the Chinese Model: Roles of Market-supporting Institutions

Through 25 years of market-oriented transition, China has undisputedly created major opportunities to sustain its rapid economic development and to continue its high growth performance. However, several severe challenges also lie ahead. Whether the potential of long-term economic development can be realised depends in particular on the question whether the institutional reform is able to keep pace with economic development. Markets will not function well in general (and specifically for developing countries that face a larger and more complex set of social and economic problems) without supporting institutions, which include relevant rules, mechanisms and organisations. Under certain conditions, market-supporting institutions can help transmit information, reduce transaction costs and enforce property rights and contracts, facilitating the division of labour and market transactions. The fundamental forces of incentives, competition, price mechanism, hard budget constraints and decentralised decision-making are also embodied in market-supporting institutions. This section specifies the challenges ahead to sustain the Chinese model, addresses in general the need to build market-supporting institutions to face the challenges, and investigates in particular the need for building a formal competition policy.

2.2.1 Challenges Ahead

Through twenty-some years of transition, the Chinese economy has been transformed into a market-based economy. The society has also been undergone fundamental changes and a more assertive civil society has grown up and played an increasingly important role in the economy and the polity, despite the fact that the pace and scope of political reform in China's reform period has not been as impressive as the change in other areas. China maintains a single-party political system, in which the Party is assigned a leading role based on the premise that it knows best what is in the interests of the people.[26] The stick to 'economic construction' as the central objective of the Party since the late 1970s has provided the basis of this premise. Furthermore, the East Asian experience demonstrates the compatibility of a single-party political system and a market economy (see Section 1.5). However, high risks remain unless the leading role of the Party and of the ruling elite, particularly senior Party leaders can be reconciled with the supremacy of the law and a system in which law limits Party power. Advocates of a more liberal political system and neoclassical economists alike have argued that sustainable economic development requires 'rule of law' and in particular enforceable property rights.[27]

Despite the theoretical debate on the compatibility of single-party socialism and rule of law, China's commitment to a law-based order has deepened during the reform period.[28]

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[26] Contrary to the stance of the advocates of radical democratisation, neoauthoritarian scholars argued that China was still not ready to make a radical move toward democracy. Instead these scholars called for a period of neoauthoritarian rule during which the economy could be rapidly developed to provide the foundation for democratic reform.

[27] See e.g. Pistor and Wellons (1999) and North (1981, 1999).

[28] See Keith (1994) and Peerenboom (2002) for discussions.

Based on a study of the Chinese experience, Peerenboom (2002) argued that single-party socialism in which the Party plays a leading role is in theory compatible with rule of law, albeit not a Liberal Democratic version of rule of law. Twenty-five years of reform has resulted in the (re) establishment of a legal system and a proliferation of new laws. The Chinese Communist Party (CCP) has endorsed the establishment of a socialist rule-of-law state in which the Party and the government must act in accordance with law. This new stance was explicitly incorporated via amendments into the Constitution in 1999. In addition, a new amendment of the Constitution in 2004 recognised for the first time the legal protection of the private property rights. Despite opposition from within the Party, the reform period has witnessed a growing separation of the Party and the state. The retreat of the Party has resulted in the transfer of power from the Party both to the government and to the society. Furthermore, just as there has been a retreat of the Party, so has there been a retreat of the state (see Subsection 2.1.1). An effective administrative law regime that imposes meaningful limits on the behaviour of the government and ruling elites is essential to the rule of law. Many new laws, such as the Price Law and the Budge Law, have been introduced aiming at controlling the economic activities of the government. Party members and government officials are required to comply with the law and in practice their behaviour is increasingly constrained by law.

However, it is widely acknowledged both at home and abroad that China has encountered herculean problems in realising rule of law. Dealing with the remaining legislative gaps still poses a major challenge. Further reforms, such as the establishment of a more authoritative judiciary and the creation of a more independent anticorruption system, require approval from the Party, which will balance the needs to strengthen the legal system and realise rule of law, on the one hand, and the prevention of the demise of the Party and instability of the society on the other. Even though the Party is still a dominant force within the Chinese polity, it is not monolithic. As argued by Peerenboom (2002), the increasing diversities within the CCP, the pressing need to sustain economic growth and attract FDI, the growing discontent over corruption, a more robust civil society, the rise of the non-state sector, and accordingly the rising domestic demands for rule of law make the future of rule of law in China dependent on more than the preferences of senior Party leaders. Although it is not likely that the market-orientation economic transition will be reverted, the danger of the persistence of the neoauthoritarian rule and the absence of rule of law highlights the possibility of the crony capitalism in China. Constitutionalism and rule of law have been strongly advocated by Jinglian Wu and Xiaokai Yang, among other Chinese economists, to avert the prevalence of the crony capitalism, especially since the East Asian financial crisis.

Whether China remains socialist is a question. Has the People's Republic of China been changed into the 'People's Republic of Capital'? Compared with the social democratic states in Europe, the ratios of government income and expenditure to GDP are extremely low in China. In terms of tax system and industrial relation, the Chinese economy is more capitalistic, with some specific features of the early phase of the development of the capitalism. High levels of economic growth are considered to be both an economic and a political necessity. Regarding the equity versus efficiency trade-off that is core to judging the orientation of an economic system (cf. Van Tulder and Van der Zwart, forthcoming), the Chinese government has clearly adopted a stance that gives priority to efficiency. To sustain the rapid pace of growth, the equity has been sacrificed and the benefits of economic growth are distributed in such a manner that social stability cannot be guarantied. Certain classes within the society, such as the peasants purely engaged in the rural sector and the workers who have been laid off, did not benefit much from the reform and were

increasingly marginalised. The scale of necessary transfer payment has been still too small. Although a more humanistic viewpoint of development has been advocated by the new generation of Party leaders and concrete policy measures have been implemented, to solve the problems accumulated in almost twenty years in the short term is not easy.

Income inequality increased dramatically during the reform period. Due to the dualistic structure of the Chinese economy, most studies on income inequality examined this issue within the rural and urban sectors separately or between these two sectors.[29] Considering the country as a whole, World Bank (1997a) estimated that Gini coefficient increased from 0.29 in 1981 to 0.39 in 1995. According to other studies (e.g. Khan and Riskin, 1998) the Gini coefficient increased was already 0.45 in 1995. Most of the income inequality came from the disparities between the rural and urban sectors. The rural-urban income disparity was largely due to the legacy of the planned economy, in which the interests of the peasants were sacrificed to support the development of heavy industries. The ratio of urban to rural income was 2.36 in 1978 and decreased to 2.14 in 1985 due to the rapid growth of agriculture in the early years of reform. Since the mid-1980s, this ratio has been kept increasing and reached 2.79 in 1995. The ratio experienced a sharp decease in 1995 and 1996 in which the prices of agriculture products were greatly lifted by the government. According to a recent report of the China Academy of Social Science (2004, in Chinese), the ratio of urban to rural income was 3.1 in 2002, the second highest in the world only behind Zimbabwe. When taking the free medication and unemployment insurance in the cities into account, China has become the country with the highest rural-urban income disparity in the world. This high rural-urban income disparity is posing serious threat to the social stability and long-term economic growth of China. The rapid increase of rural-urban income disparity was largely due to the extremely rapid growth of income of the urban rich (China Academy of Social Science, 2004, in Chinese) and the stagnation of rural income growth. The income growth of rural households has been much slower than that of urban households in recent years due directly to the following reasons: 1) the relatively slow growth of agriculture, 2) the price decrease of agricultural products, 3) the increasing tax and other burdens on peasants, 4) the greater restrictions on temporary employment in cities due to large-scale layoff of urban workers. Fundamentally, the Household Registration System (HRS) and other restrictions on rural-urban migration, the less accessibility of education in rural areas, and the urban-biased government policy have adversely affected rural income growth.[30]

China's sustained economic growth in the reform era was largely based on the condition of a relatively stable social and political environment. Whether this stability can be maintained also depends on the ability of the government to solve the problems of increasing inequality and widening gaps between rich and poor. According to the World Bank (2001), this problem is relatively simple: markets are central to improving the lives of poor people and institutions play an important role in how markets affect people's standards of living and help protect their rights. The Chinese government already has a considerable commitment to the market-oriented reform and this has not yet resulted in an effective solution to the severe inequality problem. Whether neoclassical economists are right in stating that these problems are only 'transitory' is difficult to judge. What seems relatively safe to assume, however, is that institutions without discrimination and aiming at providing equal opportunities to all the people are increasingly important. Policy reforms

[29] See Zhao *et al.* (1999, in Chinese) and Li (2002, in Chinese) for surveys.
[30] See Yang (1999) and Johnson (2000) for discussions.

and institutional arrangements should allow benefits to the rich as well as the poor. The Chinese government needs to be more aware of the dual effects of specific reform measures in affecting both efficiency and equality.

Another major challenge: environmental problems jeopardise the sustainability of long-term economic development. China's achievement of rapid economic growth and industrialisation has given rise to the problems of environment pollution, ecological destruction and amounting carbon dioxide emission. These problems in the environmental area are due in part to weak regulation and the uncontrolled desire for rapid economic growth (the so-called 'GDP worship'). TVEs, which were the engine of China's industrial development before the mid-1990s, were difficult to monitor and regulate and contributed significantly to the acute pollution problems and ecological destruction. From the late 1990s, the intensifying environmental problems have been put under control, but the ecological destruction remains a serious problem to date. The resource constraint and energy security are critical issues for China's future economic development. As demand is soaring, water and electricity shortages in some areas are exacerbating. Owing to the stagnation of production and a rapid increase of demand, China has become a net importer of oil since 1993. As demand for energy surged and China's oil consumption toped Japan's in the recent year, resource constraint on economic growth and the issue of energy security became prominent.

Despite the impressive achievements in the process of economic transition, China still has a long way to go on its progression towards 'the other side of the river' – a full-fledged and developed market economy. First, to some extent the markets remain localised and segmented.[31] Many product markets are segmented as local governments use their regulatory and other discretionary powers to favour the purchase of products made within their jurisdiction. Factor markets such as capital market and labour market has been created and developed rapidly during the reform period. But significant institutional deficits still exist in these factor markets. The seemingly unsolvable problem of the stock market provides an example (see Subsection 2.1.2). Since food rationing was abolished and HRS was modified, more flexibility has been permitted in the reallocation of labour between rural and urban areas. However, the rural and urban labour markets remain largely segmented. As HRS remained, discrimination against migrant labours in terms of education and medication still existed in cities. Secondly, a level playground for firms is still lacking. The uneven playground is reflected by discriminative treatment to different categories of ownership regarding market entry, taxation, financing, and so on. Various incentives provided by the central and local governments to attract inward FDI have put FIEs in a preferential position in competition with domestic enterprises. The supportive policies towards SOEs, especially the NKEs, have provided them competitive advantages over others. Unlike in other countries where the financial system usually discriminates against firms on the basis of their size, the lending discrimination in China is on the basis of the ownership of firms. Using city-level data over 1989-1991, Wei and Wang (1997) found evidence that China's bank loans favour SOEs. They argued that the lending bias diminished the effectiveness of other measures designed to promote the non-state sector. In addition to restricted access to bank credits, POEs lacked property right protection and were no equally treated in terms of market entry. Although facing this unfair business environment and uneven playground, other ownerships grew rapidly during the reform period. TVEs led the process in the 1980s and POEs followed in the 1990s.

[31] See World Bank (1994) and Xu (2002) for discussions.

Despite the recent achievements, SOE reform is still far from a success after 25 years of adjustment and experimentation. Before the banking sector reform in the mid-1990s, the intimate relationship with the government and SOEs led SOCBs have no accountability for inappropriate lending decision. There is no managerial incentive or pressure to improve the quality of lending decision, but the political propensity to support SOEs and to develop local economies. One main mechanism through which loss-making SOEs can keep away from going bankrupt was the generous lending made by the state-owned banking sector that are not expected to be paid back in full and on time (Wei and Wang, 1997). As a result, the SOCBs are weighted down by Non-performance Loans (NPLs). According to the official data published by the People' Bank of China, China's central bank, the NPL ratio of all domestic financial institutions was 19.8 percent at the end of 2002 and the NPL ratio for the four main SOCBs was 26.1 percent. This ratio has decreased rapidly compared with the 1990s due to systematic measures to reduce NPLs, such as capital injection and debt stripping.[32] To further reduce NPL ratios and increase the capital adequacy of SOCBs, more radical measures were adopted: US$ 45 billion from the foreign currency reserves was injected to two SOCBs in 2003, and further capital injection and international stock-market listing of four SOCBs was scheduled. However, the NPLs built up by the SOCBs and the related risks in the financial system are still a threat to the macroeconomic stability for China.

2.2.2 Building Market-supporting Institutions

To some extent, whether the potential of long-term economic development for China can be realised depends on whether the institutional reform is able to keep pace with economic development. Markets play a central role in allocating resources and distributing income in all but the centrally planned economies. A commitment to building a market economy is the central concern for most developing economies at the moment. As a (potentially) efficient way of resource allocation, markets can be the key to long-term economic advancement. According to international organisations such as the World Bank, participating in the (global) market is crucial to economic growth and poverty reduction (World Bank, 2002). However, this statement – in particular the Dollar/Kraay study that was supposed to provide the supporting evidence – has been severely criticised. In fact, many developing countries that opened their markets for international trade did not benefit from their policy. It is too easy to state that problems or challenges faced by countries such as China are mainly attributed to weak markets or the absence of market-supporting institutions. There are both internal and external dimensions to this problem, which is not easy to solve. Furthermore, the relevance and appropriateness of institutions (whether market-supporting or not) depend on the timing of their implementation in relation to the development level of a country and to the development strategy adopted. Thus question remains for China – while market mechanisms seems relatively weak and specific market-supporting institutions are still absent, to what extent markets should be further developed without a more balanced view towards the equity versus efficiency trade-off?

In the process of economic transition, China abandoned the central planning model and indeed moved toward a market economy in which markets played a more central role in

[32] In 1998, RMB ¥ 270 billion Special Treasury Bond was issued for capital injection to SOCBs. In 1999, four asset management companies were established to accept the NPLs amounted RMB ¥ 1400 billion from four SOCBs respectively.

resource allocation. China's rapid economic growth and structural transformation coincided with a relatively controlled process of growing liberalisation and a general reduction in the role of the state in economic activities. The function of the government has been largely confined to managing the macro economy, building infrastructure and providing sound environment for economic development.[33] The government does not any more decide upon the prices of most commodities, nor does it directly intervene in the production decisions of most firms. A government structure fit for the function of economic management in the context of a market economy has been preliminarily established. This structure has three main components: the fiscal and taxation system, the financial system and the strategic planning system. In addition to the generally accepted economic functions of the state, such as the production of pubic goods, the redistributive activities and macroeconomic stabilisation, the Chinese government also played a leading role in guiding the process of transition and economic development.

The Chinese model of economic development has become increasingly based upon the central function of markets (albeit with still considerable steering of the government). The transition from central planned to market-oriented economy has provided a major source of economic growth for China. Although there is no credible alternative to pursing this market-based model, as suggested by Woetzel (2003), the sustainability of the Chinese model will under question in two aspects. First, in case too much reliance is put on the functioning of markets, this model lacks support from the 'social capital' and intermediary institutions, the importance of which for the proper functioning of societies and markets is elaborated elsewhere (cf. Van Tulder and Van der Zwart, forthcoming). Secondly, 'market imperfections' arise in many instances and even extremely market-oriented models cannot function well in case that the market itself cannot function in a reliable manner. Markets will not perform well without supporting institutions (European Bank for Reconstruction and Development, 1999; World Bank, 2002).[34] Institutions affect economic performance, for instance, by determining the cost of transaction and production. Markets work if they have rules, enforcement mechanism and organisation to support market transactions. As an effective way of resource allocation, market needs support from institutions. The fundamental forces of incentives, competition, price mechanism, hard budget constraints and decentralised decision-making are embodied in market-supporting institutions. As the rules of the game, the market-supporting institutions give people opportunity and incentives to engage in the fruitful game of market. States and communities can build necessary institutions to support the function of market mechanism and the development of markets (see Table 2-3 for examples of market-supporting institutions).

Table 2-3 Examples of market-supporting institutions

Public	*Private*
● Judicial systems	● Chambers of commerce
● Competition laws	● Credit registries
● Bank supervisory authorities	● Money lenders
● Disclosure requirement on companies	● Reciprocity among business partners
● Formal land titles and laws governing inheritance	● Land inheritance norms

Source: World Bank (2002).

[33] See the 'Decision on issues concerning the establishment of a socialist market economic system' issued by the 3rd Plenum of the 14th Congress in 1993.

[34] A central lesson in transition is that markets will not function well without supporting institutions, a state that carries through its basic responsibilities and a healthy civil society (EBRD, 1999).

The building of market-supporting institutions in China's first phase of transition was principally based on transitional arrangements. The transitional institutions were usually based on 'particularistic contracting' that were relatively unsustainable and might have serious 'side effects' (see Subsection 1.5.2). The balance of benefits and costs of the 'transitional institutions' typically inclined towards the negative side as the 'side effects' accumulated. Thus a transformation from transitional to best-practice institutions became not only easier to implement as agents became familiar with the general principle of the new 'rule of the game', but also urgent to implement as the accumulated 'side effects' being increasingly acknowledged. Several typical examples of transitional institutions that have been mentioned earlier are illustrated in Table 2-4, including the dual-track price reform (discussed in Subsection 2.1.1), the 'contract responsibility system' (discussed in Subsection 2.1.3) and the 'fiscal contracting system' (discussed in Subsection 2.1.4).

Table 2-4 Examples of transitional institutions

Transitional institution (Period)	*Basic institutional objectives*	*Benefits*	*Costs*	*Optimal institution (Period)*
Dual-track price reform (1984-1991)	Market creation: Making market play the central role in price determination and resource allocation	Pareto improving; without arousing political resistance	Creating opportunities for rent-seeking and corruption	Price Liberalisation (1992-)
Contract responsibility system (1984-1988)	SOE reform: Decentralising decision-making for SOEs and promoting incentive for managers	Flexibility; Experience can be borrowed from the similar reform in agriculture	Opportunism and moral hazard; Informational asymmetry between SOEs and government in negotiation	Privatisation of small and medium-sized SOEs; establishment of modern corporate governance (1993-)
Fiscal contracting system (1982-1993)	Fiscal decentralisation: Decentralising decision-making for government and promoting incentive for local state agencies	Flexibility; consistent with the experimentations of reforms in specific areas	Annual negotiation; Local protectionism and market fragmentation; Fiscal weakness of the central government	Separated central and local taxation system based on value-added tax (1994-)

The transitional institutions realised specific objectives of reform but also produced serious – and often unexpected – 'side effects'. In the second phase of economic transition, most of these transitional institutions were transformed into new institutional arrangements. Although the dual-track price reform was proved as efficient Pareto-improving by the general equilibrium analysis (Lau *et al.*, 2000), this approach had serious negative effects. The large gap between the prices in the plan and market track created opportunities for rent seeking and led to widespread corruption, which contributed significantly to the economic and political unrest in the late 1980s. The contract responsibility system that was implemented in the 1980s for SOE reform was terminated due to the widespread opportunist behaviour of top managers of SOEs in their tenure of contracting. Another serious problem of the contract responsibility system was the informational asymmetry between SOEs and government in negotiation for the terms of contract. Although certain degree of autonomy and managerial incentives was introduced into SOEs by establishing a contractual relationship between SOEs and their governmental supervisory agencies, the fundamental agency problem could not be solved and sometimes even worsened. Based on the same logic of 'particularistic contracting', the fiscal contracting system faced similar problems. The division of economic interests between the central and local governments

was largely based on a process of negotiation and bargaining. The provinces with strong bargaining power usually received preferential fiscal treatment, which in turn contributed significantly to their economic development and increasingly led to regional inequalities.

2.2.3 Competition Policy: From 'Transitional' to 'Optimal' Institution?

Well-functioning markets, both domestic and foreign, are vital to China's future economic development. This requires in principle many things from the government. Central to the tasks is the ability to furnishing the requisite institutions to support the appropriate functioning of markets. Competition policy is one of the key components of market-supporting institutions. The nature of competition in a specific industry is influenced by a wide rang of factors, including firm rivalries and government policies. There are many potential restrictions to competition. Governments introduce competition policies to tackle private restrictions to market competition and to promote economic efficiency and consumer welfare. Competition policy is a particular policy instrument safeguarding competition, although a number of other policy measures may also have their impacts on competitive situations. The term competition policy refers to the competition law and the policy process based on it, which aims to ensure that the competitive process is not impeded. The term competition law generally refers to legislation, judicial decisions and regulations, which are generally designed to maintain or protect competition and to control abuses of market dominance by firms. In addition to competition policy, a broad set of policy instruments influencing competition includes privatisation, deregulation, trade policy, foreign investment policy, industrial policy and subsidies. Thus countries may have been able to maintain a considerable degree of competition in product markets despite the absence of a *de jure* competition policy.

The introduction of new forces of competition has been crucial to the functioning of the Chinese model of economic development (see Section 2.1). In the first phase of China's economic transition, the emergence and promotion of competition was based upon the regulatory reforms and transitional institutional arrangements. The transitional institution for competition promotion was not constrained to one particular institution as the examples in Table 2-4. Various institutional changes in economic transition helped introduce new forces of competition into the economy. By forcing firms to participate in the newly created competitive markets, competition was injected into the economy. Competition in industries was promoted by removing entry barriers in markets. Economic openness also constituted an effective channel for injecting competition. Competition can be introduced by opening up the economy to international competition, particularly for tradable sectors. Inward FDI and international trade injected competition from abroad into markets. Increasing openness to international trade (see Table 2-5 for the changes of average tariff rate since 1992) exerted competitive pressures on domestic firms. Openness to international trade also urged the government to reform those domestic institutions that undermine the ability of firms to respond to competitive pressures from abroad. International trade reform itself can be viewed as institutional reform, as argued by Rodrik (2000).

Table 2-5 Tariff rate of China, 1992-2004

Year	*1992*	*1993*	*1995*	*1997*	*2001*	*2002*	*2003*	*2004*
Average tariff rate (percent)	43.2	36.4	23.0	17.0	15.3	12.0	11.0	10.4

Source: MOFTEC (MOC).

Meanwhile, regulatory reform has been implemented and competition has been introduced into the 'natural monopolistic industries' such as telecommunications, electricity, gas, postal services and railroad.[35] The problems of these industries in China were particularly serious because of the 'administrative monopoly', which were caused by the combination of the monopolistic enterprises and the government and led to the collusion between the monopolistic interests and administrative power (Feng, 2003, in Chinese). In the early 1980s, the price regulation on telecommunications was relaxed, significantly increasing the profitability of the telecommunications sector and accordingly its investment capability. In 1985, the adoption of the 'collecting money for electricity' policy partly opened the electricity market. In 1987, the entry regulation of the civil aviation market was loosened and local governments were allowed to establish airline companies. The new round reform in the 1990s focused on changing the monopolistic market structure and introducing competition into the network industries. Some network industries such as telecommunications, electricity and civil aviation have realised the separation between the enterprises and the government. The sectors of railroad and postal services (except for the services of express and fast delivery) remained largely intact. Competitive market structure has been primarily established in some sectors, among which the progress of telecommunications industry may be the most prominent. Thorough the entry of new competitors and the breakup of the monopolist, competition has been introduced into the telecommunications market, first in mobile telecommunications and data services and then expanded to the fixed lines.[36]

The importance of the legislative protection of competition has been acknowledged since the beginning of China's reform. In 1980, the State Council enacted the 'Provisional Regulation on Implementing and Protecting Socialist Competition', which emphasised for the first time the necessity to fight monopoly, especially the 'administrative monopoly'. In the beginning of the second phase of China's economic transition, as suggested in Subsection 1.2.1, the establishment of a modern market system has been formally recognised as the goal of reform and a series of formal institutions are established accordingly. The Law to Counter-Unfair Competition was enacted in 1993. The introduction of this law can be considered the first step toward establishing a competition policy. This law, which aims to 'encourage and protect fair competition, stop acts of unfair competition and defend the lawful rights and interests of firms and consumers', probates a number of business practices, among which some are typical targets of a competition law such as predatory pricing and bid rigging. The State Administration for Industry and

[35] As in other countries as well, these industries was deem to be 'natural monopolistic industries' because the absence of competition was motivated by the existence of large fixed costs in the network, whose duplication was neither privately nor socially desirable. However, incentive regulation and competition have been or are being introduced worldwide in these network industries (Laffont and Tirole, 2000).

[36] In 1994, China Unicom and Jitong Communication were established. It was the first time competitive force beside the Ministry of Post and Telecommunication was introduced. In 1998, China Telecom was established to separate telecommunications operation from administration. The administrative system of post and communication was separated: China State Post Bureau has been established; the administration of telecommunications was incorporated into the newly formed Ministry of Information Industry. In 1999, the mobile telecommunications, satellite communication and paging service were stripped from China Telecom. With the establishment of China Mobile and the rapid growth of China Unicom, a duopolistic market structure was preliminarily formed in the mobile telecommunications sector. In 1999, China Netcom was established. In 2000, China Railcom was established. In 2001, China Satcom was established. In 2002, China Telecom was separated into two parts geographically, and the north part (10 provinces) was incorporated into China Netcom. Jitong Communication was also incorporated into China Netcom.

Commerce (SAIC) is responsible for the implementation of the Law to Counter-Unfair Competition. For 10 years since the enactment of this law, agencies at different levels of the SAIC have investigated 195,000 cases, with RMB¥ 15.03 billion involved. RMB¥ 2.19 billion has been fined accordingly.[37] Other competition related laws include the Law of the Protecting Consumers' Rights and Interests enacted in 1994 and the Price Law enacted in 1998. The former, implemented by the SAIC, aims to protest consumer interests and the latter, implemented by the NDRC (the former SDPC), aims in part to curb price war and predatory pricing.

While competition policy is widely recognised as a basic policy instrument to safeguard competition and as a necessary institution to support markets, a formal and clearly defined competition policy was not included in the list of necessary institutions to be built up in the 1990s. The process of drafting of antitrust law[38] began in 1994 right after the introduction of the Law to Counter-Unfair Competition, but the final draft of this law has been procrastinated for several years.[39] Thus the core of China's *de jure* competition policy, an antitrust law, is still absent.[40] The present regime of *de facto* competition policy mainly includes the Law to Counter-Unfair Competition, the Law of the Protecting Consumers' Rights, the Price Law, anti-dumping and anti-subsidy regulations, as well as regulations against unfair competition acts in specific industries (such as civil aviation). In addition, a preliminary system of merger control has been established in China. The legal framework of this system is embodied in a number of regulations on merger and acquisition targeting at different ownership categories of firms, promulgated and implemented by various government agencies (see Subsection 5.2.5 for a detailed discussion). Although the scope of China's present competition regime is broad, a large part of the three widely accepted principal areas of modern competition law – agreements among firms, the abuse of dominant positions and combination or mergers among firms – are still not covered by the present competition policy regime. An independent competition policy agency is also lacking in China. The government agencies involved principally include the SAIC, the MOFTEC and the SETC (as noted earlier, the MOFTEC and the SETC has been consolidated into the MOC since 2003). Therefore the promotion and protection of competition in China remain relying on transitional institutional arrangements.

Recent developments[41] demonstrate that the attitude of the Chinese government towards the issue of competition policy has changed as a new legislation plan is implemented in order to adapt for the new situation following China's WTO entry. The rules of WTO give China no choice but to accelerate its transition to a full-fledged market system by incorporating international accepted best-practice institutions, among which competition policy is an important component. Accession to the WTO has accelerated the

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[37] According to the SAIC.

[38] The law is named 'Antimonopoly Law'.

[39] A drafting group of the Antitrust Law was established in May 1994. The Antitrust Law was included in the legislation planning in the Eighth and Ninth People's Congress continually. A daft version of China's antitrust law has been dispersed in 2002. But antitrust law was not included in the China legislation plan in 2003.

[40] The Annex table A.22. in *World Investment Report 1997* takes China as one of the countries and territories with competition laws. The year in which the competition law was first adopted is also indicated as 1993. In fact, it is refer to The Law to Counter-Unfair Competition, which was adopted on December 1, 1993.

[41] For example, Lu Fuyuan, the former Mister of Commerce, said in March 2003 that the Antitrust Law is being prepared for enactment. A draft version of Antimonopoly Law has been circulated at the end of 2003. In May 2004, a survey-based report prepared by the SAIC has pointed out some industries that have raised antitrust concerns.

gradual convergence of domestic and international institutions, an essential requirement for further international economic integration. The institutional convergence implies that the rules governing the interaction between economic agents in both domestic and international economic arenas will increasingly reflect homogeneous principles and norms.

Was the competition mechanism of markets on the basis of transitional institutions in China's reform period functioning in an efficient manner? How to evaluate of the effectiveness of the *de facto* competition maintenance mechanism in the first two phases of China's economic transition? There are three main approaches to measuring competition. The first approach is to analyse market structure; the second approach is to look at the consequences of market structure; the third approach is to look directly at the behaviour of firms. The aggregate measures of Chinese industry regarding firm profitability reflected the intensified competition before the mid-1990s, highlighting the relative effectiveness of *de facto* competition maintenance mechanism. Naughton (1992) argued that the ability of the non-state sector to bid away supernormal profits within the state sector has reduced profitability not only within the state sector but also within the non-state sector, where the opportunities to exploit monopoly profits have diminished. The paradox of rising productivity and falling profitability, discussed in the Subsection 2.1.3, was an industry-wide phenomenon in China, not a condition limited to the state sector (Jefferson *et al.* 1999).[42] Although profit performance varied across different ownership categories, profitability declined for all ownership in the 1988-1996 period (Table 2-6).

Although the transitional institution for competition promotion and maintenance can act as a substitute for competition policy, at present a critical concern on the future of the Chinese economy is: to what extent has the previous introduction of market competition in Chinese industries delivered positive effects (especially after the mid-1990s when a large amount of FDI flushed in), to what extent should competition be further maintained and promoted, and can this be done by transitional institutions without a clearly defined formal competition policy, as has previously been the case? In case that the degree of market competition is sound and there is an effective *de facto* competition maintenance mechanism, is it necessary to replace or supplement it with a competition policy? If the competition mechanism of markets is malfunctioning and there is no effective *de facto* competition maintenance mechanism, is a competition policy effective enough to change the situation, or there should be other policy consideration? All these questions have no uniform answer for different industries during different period of time. To evaluate the necessity of competition policy, the aggregate measurement, such as that in Table 2-6, is insufficient; the reliable approach is to examine the degree of competition in industries, and in the other words, to evaluate of the effectiveness of the *de facto* competition maintenance mechanism in various industries.

[42] Productivity increased in the COEs, for instance, but profit rate declined too (Jefferson *et al.* 1992, 1994).

Table 2-6 Profitability (percent) in the Chinese industry, selected years

Ownership Category	*1988*	*1992*	*1995*	*1996*
	(Profit + tax) / total industrial output			
SOEs	17.8	11.4	11.1	10.0
COEs	10.7	7.6	6.6	5.9
TVEs	10.1	7.9	/	/
Others	13.2	9.5	/	/
FIEs	/	/	8.8	7.7
Joint-stock companies	/	/	13.4	11.5
Total	15.7	10.1	9.2	8.2
	(Profit + tax) / total assets			
SOEs	20.6	9.2	6.6	6.5
COEs	19.8	9.8	8.1	8.1
TVEs	18.8	11.8	/	/
Others	24.7	10.7	/	/
FIEs	/	/	8.3	8.4
Joint-stock companies	/	/	9.5	9.2
Total	20.5	9.5	8.3	7.1
	Profit / total industrial output			
SOEs	3.3	3.1	2.6	1.5
COEs	2.3	3.5	2.4	2.3
TVEs	2.4	4.2	/	/
Others	2.5	6.2	/	/
FIEs	/	/	4.6	3.9
Joint-stock companies	/	/	7.4	5.9
Total	2.9	3.5	3.0	2.4
	Profit / total assets			
SOEs	3.8	2.5	1.9	1.0
COEs	4.1	4.5	3.2	3.1
TVEs	4.5	6.3	/	/
Others	4.7	7.0	/	/
FIEs	/	/	5.1	4.3
Joint-stock companies	/	/	6.3	4.7
Total	3.9	3.3	2.7	2.1

Source: Jefferson and Singh (1999).

2.2.4 Introducing Competition Policy: The Experience of Developing Countries

Does China need a formal competition policy and what kind of competition policy does China need? Although the answer lies in the empirical studies of Chinese industries, as was stressed in the last section, experience of other developing economies can already provide valuable lessons. A large number of countries have introduced national competition laws. Currently, over 90 countries worldwide have competition law, including almost all developed countries. There are still a large number of developing countries do not have competition laws and policies. For these countries, the question is whether or not the introduction of competition policy is worth it? Is it necessary that developing countries adopt competition policies that have been adopted by developed countries? It is important for each country to consider the necessity of competition policy in the light of its own economic, legal and cultural environment, as well as its own model of economic development. One size does not fit all in considering institutional design. It is also

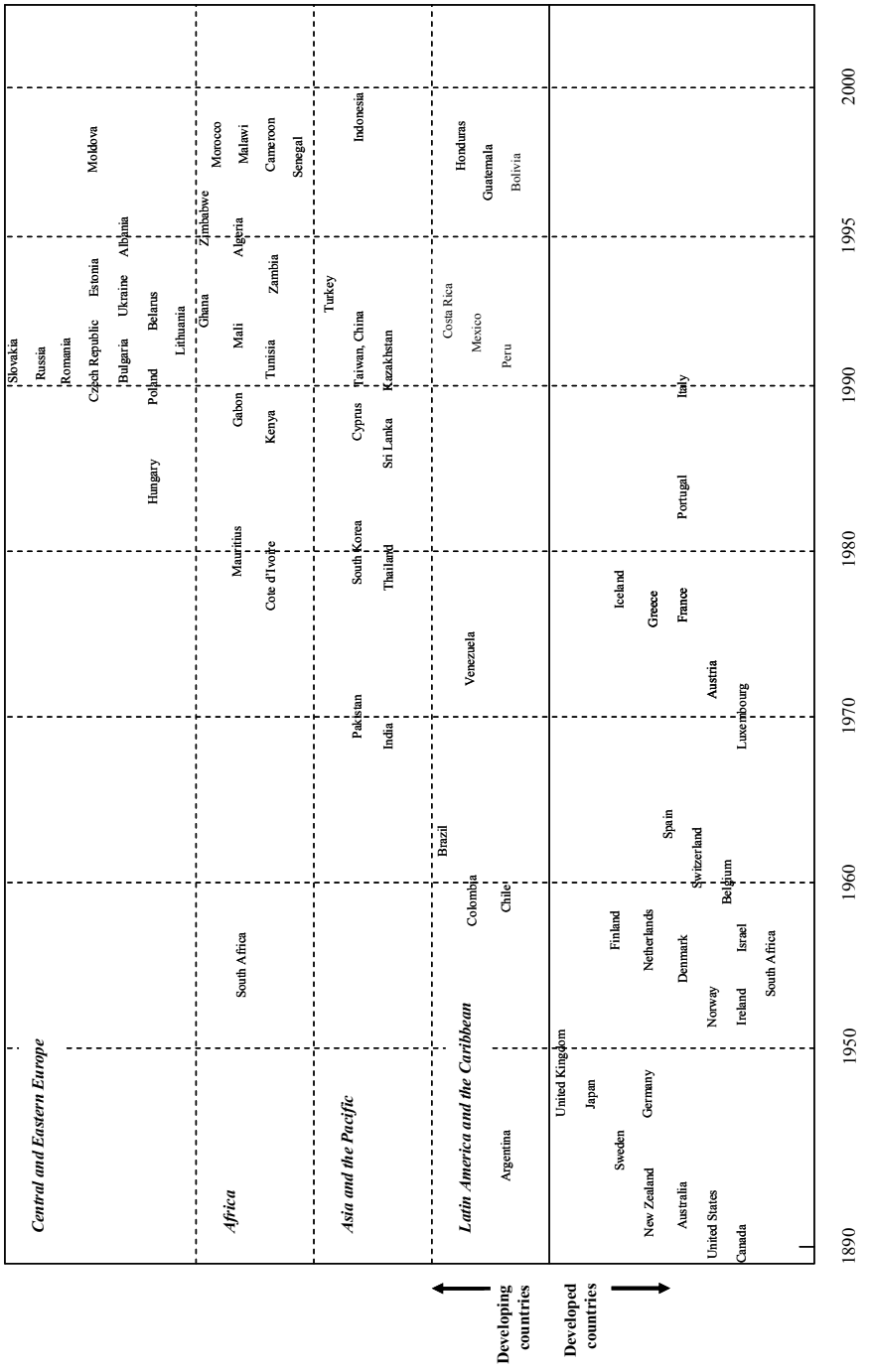
important to take a pragmatic approach to building a competition policy, focusing on what can be done practically rather than on what should be done in an ideal world.[43] Developing countries can learn from the strengths and weaknesses of the institutions in the developed economies, but they cannot simply copy them. This subsection further elaborates these issues by describing the proliferation of competition policies in general and addressing the experience of East Asian economies and EEFSU transition economies in particular. These two groups of countries are also the comparative basis for Chapter 1.

Proliferation of competition policies

The modern history of competition policy took shape during the later decades of the 19th century. The Sherman Act of 1890 in the United States was the first substantial antitrust measure of modern times. The act was passed in response to the growth in corporate trusts, which led to a substantial increase in concentration in many US industries. The principal areas of modern competition policy include agreements among firms, the abuse of dominant positions and combination or mergers among firms. Competition advocacy is another important function for all antitrust authorities, particularly for developing countries. Since the late 19th Centaury, competition policy has been introduced in a large number of countries. By the end of 1996, over 70 countries worldwide had introduced competition laws (UNCTAD, 1997a). The number has hitherto increased to over 90.[44] Figure 2-4 illustrates the proliferation of formal competition policy institutions for countries and territories over time.[45] Governments have introduced competition laws and established competition authorities to enforce them, because of domestic antitrust concerns, in response to economic crises, or due to international pressures (World Bank, 2002). Most developed countries introduced competition law before 1980, especially in the 1950s. Except for some pioneers, most developing countries adopted competition policies after 1990. Almost all developed countries have competition legislations, but there are still a large number of developing countries that still have not introduced competition policies.

[43] See World Bank (2002) for a discussion of building effective institutions.
[44] See the 'Directory of competition authorities' prepared by the UNCTAD secretariat, 2002.
[45] According to UNCTAD and OECD.

Figure 2-4 Proliferation of competition polices



Canada and the United States were the first two countries to introduce competition law, in 1889 and 1890 respectively. Sweden introduced an antimonopoly law in 1925 because of concerns about cartels. Most other countries that have introduced competition law before 1950 were Anglo-Saxon, including Australia, New Zealand and the United Kingdom. Many European countries introduced competition policy in the 1950s. Antitrust became institutionalised in Western Europe as governments moved to reduce trade restrictions and integrate their economies. Differing from the antitrust tradition of the United States, argued by Wells (2002), most European countries had tolerated and even encouraged cartels. According to Wells, pressure from Washington helped prevent a resurgence of cartel in Europe after the Second World War. The United States devoted considerable resources to building a liberal economic order, which Washington believed was necessary to preserving not only prosperity but also peace after the war. Antitrust was a cornerstone of this policy and the United States sought to impose antitrust policy on other nations, especially Western European countries and Japan (Wells, 2002). The occupation of Germany and Japan initiated an ambitious social science experiment: the reconstruction of these economies that were largely devastated. The occupation allowed Americans to implement programs of deconcentration and decartelisation in Japan and Germany, which had highly concentrated and cartelised economies. Meanwhile, the United States succeeded in imposing on Western Germany and Japan antitrust policies roughly modelled after its own regime.[46]

A large number of developing countries have also introduced competition laws. The introduction of competition laws in developing countries reflects the changing context of the national and global economy. In the 1970s, support for free markets reached its nadir in developing countries, as governments embraced the policy suggestions based on the traditional development economics (see Section 1.5). Cartels, most notably the Organisation of Petroleum Exporting Countries (OPEC), were established to raise the commodity prices to a 'just' level. Since debt crisis in the 1980s, economic liberalisation policies have been introduced with the aim of promoting efficiency and increasing competition. The reform program was implemented through external pressure from international financial institutions and often entailed enacting and enforcing strong competition policy.[47] Trade liberalisation and privatisation were central components of the reform. For developing countries, the earlier protectionist policies have left a legacy of weak and underdeveloped competition frameworks. Government policy instruments are needed to safeguard and promote the competitive process, especially in a context of rapid institutional change and economic openness. Regulation, sometimes embodied a component of competition policy, was often developed after privatisation (Wise, 2000a).

At the end of the 1980s only a handful of developing countries had effective competition legislation (Gray, 1991). Where rules and guidelines for competition existed, they were poorly implemented compared with competition policies of developed countries. In the 1990s, the pace of adoption increased rapidly as former centrally planned economies in Central and Eastern Europe introduced comprehensive programs of deregulation,

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[46] The Antimonopoly Law of Japan and the Decartelisation and Deconcentration Law of Germany were both enacted in 1947. They are significantly amended by later legislation, moving away from their US origins to consider more local conditions, particularly through a higher degree of tolerance for some types of cartel activities (World Bank, 2002). In Japan, the Fair Trade Commission was created in 1947, modelled on the American Federal Trade Commission. In 1957, the parliament legislation of Western Germany strictly limited, although not entirely abolished cartels, which was not as strong as the 1947 degrees.

[47] See Sell (1998) for a discussion.

privatisation and competition policy. A number of developing countries also introduced competition policy in the 1990s. Since 1990, more than 35 developing countries and transition economies have introduced competition law.

Experience of the East Asian NIEs

The four 'Asian Tigers' – Hong Kong, Singapore, South Korea and Taiwan – are the core of the so-called 'East Asian Miracle'. In these four 'dragons', South Korea and Taiwan, have introduced competition policy, but Singapore and Hong Kong still do not have competition legislation. As city-states, Singapore and Hong Kong provide a rather unique environment, the political and economic idiosyncrasies of which make international comparisons difficult, if not impossible. South Korea deserves the most attention because it introduced competition legislation earlier and improved it in a gradual manner. The South Korean competition policy provides a typical example for the competition policy introduced and improved in a context of state-led rapid economic development. The special role the competition policy played for *chaebol* reform and policy consultancy can also be used by China as a reference. Nevertheless it seems reasonable for developing countries to question the relevance of competition policy to their development given the success of economies such as Hong Kong and Singapore, even and South Korea. In fact, competition policy played a negligible role in the era of rapid economic development in South Korea.

South Korea is one of the pioneers in developing countries introducing competition policies.[48] In South Korea, competition policy played a small role in the era of state-led development of the 1960s and 1970s. In this period the government assigned top priority to industrial and trade policies in order to maximise investment and international market share. South Korea's competition policy regime developed as its economic policy has shifted from government controls toward reliance on markets since the early 1980s (OECD, 1996). Since the policy shift took place in the early 1980s, *chaebol*, the primary vehicle for investment and development, has emerged as a primary subject of competition policy. The *chaebols* are historical legacies of the early period of government-led rapid economic growth. In South Korea's development program, the *chaebol* structures offered some advantages, but, as South Korea's market environment opened more in the 1980s, weaknesses in this economic organisation became evident (Wise, 2000b). *Chaebol*, the effective solution for rapid industrial development and catch-up in the era of state-led growth has posed serious problems in the new economic environment.

The Monopoly Regulation and Fair Trade Act (MRFTA), the current antimonopoly law of South Korea, was adopted in December 1980, essentially replacing the Price Stabilisation Act enacted in 1974 aiming at controlling prices and assuring fair trade practices. The stated purpose of MRFTA is to encourage fair and free competition by prohibiting abuses of dominant positions, preventing excessive concentration of economic power and regulating improper concerted activities and unfair business practices, thereby stimulating creative business activities, protecting consumers and promoting the balanced development of the national economy. The MRFTA marked a significant departure from the traditional model of government-led development to a market economy and created a comprehensive set of new rules for the market economy – free and fair competition. Responsibility for the implementation of this new law was assigned to a new agency, the Korea Fair Trade Commission (KFTC), within the powerful Economic Planning Board.

[48] See e.g. OECD (1996) and Lee (1998, 2002).

The MRFTA forbids dominant firms in monopolistic or oligopolistic markets from abusing their market dominating positions.[49] The KFTC exerted considerable administrative efforts to identify these monopolistic or oligopolistic firms, but was only able to correct a very small proportion of these cases. In 1999, the MRFTA was amended to abolish this prior designation of dominant firms. The KFTC prohibits firms and cartels from engaging in collective activities that would restrict competition substantially. By 2000, 329 such prohibited collective activities had been remedied.[50] As to merger review, the 1999 amendment also abolished the ambiguous exemptions (either industrial rationalisation or strengthening the international competitiveness of an industry) and set up the efficiencies and failing-firm defence. The KFTC also administers rules pertaining to unfair contract practices and advertising, as important complements to competition policy. The KFTC also plays a unique role in the area of competition advocacy. Other government agencies are required to consult with the KFTC in case that they are going to introduce, amend or enact any laws, degrees, or administrative measures that may restrain competition. From 1981 to 2000, government agencies consulted with the KFTC on 3,789 separate proposed legislation or alterations, of which the KFTC corrected 685.

The institution of competition policy has progressed gradually since the 1980s. In 1988, competition policy enforcement intensified and the Task Force for Economic Autonomy and Competition was established to review existing regulations and recommend changes. In 1990, the Committee for Administrative Deregulation was set up, which was succeeded in 1993 by the Deregulation Committee. Issues addressed included rules about plant establishment, construction, land use, customs clearance, foreign investment, environment, and distribution. Sectors studied included transport, distribution, construction, finance, stock brokerage and insurance, pharmaceuticals and cosmetics, food and beverages, alcoholic beverages, fisheries, energy, and services such as advertising and telecommunications (Lee, 1998). In 1990, decision-making power of competition law related matters had been shifted from the Minister of the Economic Planning Board to the KFTC Chair, thus giving the KFTC independence in its enforcement decisions. In 1994, as a result of the re-organisation of government, the KFTC emerged as a separate and independent agency.

Following the 1997 financial crisis and the measures imposed by the International Monetary Fund (IMF), competition policy was considered key to regulatory reform for South Korea. The government has used competition policy tools to restructure *chaebols* as well (Wise, 2000b). There is continuing concern about problems raised by the *chaebols*, problems which are not limited to conventional competition issues but which also include concerns about capital structures and corporate governance. The MRFTA, for example, prohibits direct cross-investment between subsidiaries of the same *chaebol* and restricts affiliate cross debt guarantees between subsidiaries belonging to any of the 30 largest *chaebols*. Under the 1998 amendment, MRFTA prohibits affiliate payment guarantees for all new borrowings to the 30 largest *chaebols*. The 1999 amendment of the MRFTA permits the existence of holding companies with certain restrictions[51], as a means to induce

[49] Market dominating firms refer to either any single firms that has a market share of more than 50 percent or the three largest firms in a given market that have a combined market share of more than 75 percent. See Monopoly Regulation and Fair Trade Act, Law No. 3320 of 1980.

[50] See Lee (2002).

[51] 'Financial' holding companies cannot possess non-financial subsidiaries and 'general' holding companies cannot possess subsidiaries doing financial business.

chaebols to reorganise themselves and to separate financial capital from industrial capital. Advocacy to achieve procompetitive reform has been comparatively successful. Recent reforms eliminated most remaining exemptions from the competition law and some potentially anticompetitive special privileges remain, many of them benefiting small and medium-sized enterprises.

The introduction of competition policy in Taiwan was later than in South Korea. A 'Fair Trade Law' was promulgated in 1991 and became effective in 1992. The target of this competition law is restrictive business practices and unfair trade practices. The Fair Trade Commission (FTC) was established in January 1992. The FTC is the central authority in charge of competition policy and the implementation of the Fair Trade Law. It is responsible for drafting fair trade policy, laws and regulations, and for investigating and handling various acts impeding competition, such as monopolies, mergers, concerted actions, and other restrictions on competition or unfair competitive practices by enterprises. When matters provided for under the Fair Trade Law concern the authority of other ministries and commissions, the FTC handles them in consultation with those bodies. The FTC is also charged with directing and supervising the enforcement of the Fair Trade Law by the authorities at the municipality and county (or city) level.

Hong Kong and Singapore are among the most open economies in the world (see Subsection 1.3.2). Although they are widely regarded as a free and competitive economy, there are actually no competition policies in Hong Kong and Singapore. In 1992, the Consumer Council of Hong Kong began to study a number of industries where there was a lack of competition. The Council later published a summary report, which recommended the enactment of competition laws and the adoption of comprehensive competition policies in Hong Kong. But the government did not accept the Council's recommendations. The government argued that the needs, requirements and characteristics of individual sectors varied, so a sector-specific approach to safeguarding competition was more practicable. In case that the government finds that effective competition does not prevail in certain industries, or a dominant firm abuses its market dominance, it will take actions to promote competition. This sector-specific approach was adopted by Lam (2000) to analyse the problem of market dominance in Hong Kong's gas industry. The author concluded that the gas industry in Hong Kong is dominated by HKCG, which gained unreasonable profits depending on its dominance position. It is argued that, instead of imposing extensive government regulation on the company, a better way to discipline the firm is to introduce natural gas and a common carrier system to Hong Kong. Like in Hong Kong, there is generally no legislation or regulation that governs anticompetitive practices in Singapore. Starting with the telecommunications and power industries, Singapore has been adopting a sector-specific approach to ensuring efficient competition in liberalised markets. The Singapore government was reported to be studying the need for special legislation to ensure commercial fair play and a competition law will be enacted by 2005.

Without competition policy, Hong Kong and Singapore have realised high economic growth performance over decades. This indicates that in extremely open economies, international trade can introduce fierce competition into domestic markets and possibly act as an effective substitute for competition policy. But the experience of post-war Japan could also be treated as a demonstration of the irrelevance of competition policy for rapid economic growth even in a large and relatively closed economy. Japan's anti-monopoly law has been in place since the end of the Second World War. For most of the post-war era, however, the principal goal of Japan's economic policy has been economic growth and free competition has sometimes been seen as inconsistent with that goal (Iyori and Uesugi, 1994). Competition policy was assigned to a separate agency, independent of the

government but politically not strong enough to promote its policies effectively (Wise, 1999). In the 1990s, Japan's attitude toward competition policy enforcement has changed mainly due to pressure from the United States.[52] The enforcement activities were increased and exceptions from the competition policy were removed. Despite the recent renaissance of competition policy in Japan, the decades of rapid growth of the post-war Japanese economy generally witnessed the absence of an effective competition policy. The Japanese, as well as the South Korean, experience has questioned the relevance of competition policy for economic growth. Rather, the necessity of a proactive industrial policy has been highlighted.

Experience of transition economies

The number of countries and territories with competition laws increased sharply after 1989 as the former centrally planned economies in Central and Eastern Europe introduced comprehensive reform programs including competition policy. Starting from an initial condition where industries were extremely concentrated in line with the model of centrally planned economy, most transition economies pursued policies to reduce concentration through facilitation of entry and restructuring of state-owned industries. Privatisation played a central role in most EEFSU transition economies. Based on the experience of the privatisation of other developing countries, given the initial levels of concentration, there was a keen awareness of the risk that privatisation might easily transform public monopolies into private ones and might increase the risk of abuses of market dominance. Most policy advisors therefore strongly supported the implementation of antitrust mechanisms in transition countries (Pittman, 1992; Willig, 1992; Estrin and Cave, 1993; Mastalir, 1993; Saunders, 1993). In some transition economies, competition authorities were given the mandate to scrutinise privatisation decisions *ex ante* in order to ensure that newly privatised entities would not have excessive market power (Djankov and Hoekman, 1998a). Competition authorities had the mandate to impose demonopolisation prior to privatisation. In Russia, however, private monopolies were created in a hasty privatisation program and had already been expected in 1994 to give rise to high social and political costs (Joskow *et al.*, 1994) – which has been the case witnessing the considerable negative effects imposed on the Russian economy by the so-called 'oligarchs' linked to these private monopolies.

The economic transition of Central and Eastern Europe has been different from that in China (see Section 1.2). The former was pre-designed and took place in a short period while the latter materialised in a gradualist and experimental manner in a relatively longer period. The competition legislation was introduced as a part of the comprehensive programs of market-oriented reform package in the EEFSU transition economies. In the EEFSU transition economies, according to the World Bank (2002), the 10 EU accession countries (see Table 1-4) began enacting competition laws under some forms of pressure from the European Commission. However, the supporting legal framework for competition policy in these countries was absent and there was differing understanding of the reach of competition laws. The countries had to amend the laws to make explicit the matters that their advisors taken for granted (World Bank, 2002). The experience of these countries provides China an example for competition legislation and its enforcement in a context of

[52] In trade dispute with the United States, it was claimed that the lax enforcement of competition policy gave Japanese firms unfair advantages against imports. The response from Japan was a number of explicit commitments to increase the resources and visibility of competition policy implementation (Wise, 1999).

economic transition process.

For the transition economies, competition policy institutions evolved in the process of transition from central planning to a market economy. Competition policy was part of a larger context of pro-market decisions about privatisation and market openness. The competition laws introduced by the EESFU transition economies, including the 1990 Hungarian and Polish laws, the 1991 Russian law and the 1991 law of the Czech and Slovak Federated Republic, more closely resemble the competition law of the European Community than that of the United States.[53] The Russian law, for instance, is concerned primarily with the abuse of market dominance, not with cartelisation and exclusionary practices (Joskow *et al.*, 1994). It is recognised that a broader view of competition policies is needed to analyse competition for the special context of transition economies. Import, domestic entry, break-up of conglomerates and the imposition of hard budget constraints on SOEs are important aspects (Djankov and Hoekman, 1998b). It is proved that competition is enhanced through the effect of policies other than antitrust enforcement, although the antitrust office may well play a role as well.[54]

It is hard to assess quantitatively what the impact of the functioning of competition authorities has been in the EEFSU transition economies. An empirical study of competition policy in the Visegrad countries (Czech Republic, Hungary, Poland and Slovakia) by Fingleton *et al.* (1996) concluded that most enforcement cases were directed towards the abuse of market dominance. Many of these cases concerned the allegation of unfair trade practices and were basically contract enforcement problems. Only a small percentage of cases were found to concern hard-core collusive practices, such as bid rigging, price-fixing and market allocation. The study also concluded that remedies for serious violations of the law were not sufficient to ensure that firms have a strong enough incentive to abide by the law. A study on the activities of the Bulgaria competition authority conducted by Hoekman and Djankov (2000) has found similarly that a small percentage of cases concerned the hard-core anticompetitive practices.

In Central and Eastern European transition economies, competition policy institutions have played an important role in creating the conditions for a healthy market economy and the competition issues that appear in the markets are comparable to those in other developed countries (Wise, 2000c). For most EEFSU transition economies, after the market economy was generally launched, the resources and priorities of competition policy have concentrated more on monitoring horizontal restraints and anticompetitive mergers and on the competition problems of regulation. Some countries are moving to introduce competition into formerly regulated or monopolised infrastructure sectors and services. The experience of EEFSU transition economies seems to illustrate that a well-designed multidimensional competition policy can have significant effects in fostering and maintaining competitive markets. It is argued that an open trade regime, complemented by wide-ranging privatisation, free entry into industrial sectors and the imposition of hard budget constraints on remaining SOEs, has led to a market structure similar to that found in a developed country (Djankov and Hoekman, 1998a). Whether this is the case, is open for debate and for more detailed study on the effectiveness of competition policies in these countries, which is not the object of this study.

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[53] Pittman (1992) provides a general evaluation of key provisions of these laws.

[54] The studies in this area include: Djankov and Hoekman (1998b) and Konings (1998) on the impact of import competition in transition economies; Newberry and Kattuman (1992) and Feinberg and Meurs (1994) on the importance of domestic entry; and Schaffer (1998) on the effect of hardened budget constraints.

2.3 FDI, Competition and Government Policy: Implications for the Chinese Model of Economic Development

Macro economic advancement is based on the development of individual industries. Industrial development could be broadly defined as the increase of domestic production capacity, the progress of both static and dynamic efficiency, and the enhancement of international competitiveness of industries. To what extent has the previous (controlled) introduction of competition in Chinese industries delivered positive effects to industrial development and to what extent should competition be further maintained and promoted? The answer to this question varies among industries. And manifold approaches can be adopted to address this concern. In a dynamic context characterised by the coexistence and co-evolution of the process of transition, internationalisation and industrialisation, the complexity in industries highlights the importance of choice between different approaches in industry studies. In China, different industries have various degrees of openness and entry barriers and consequently different competitive forces have been engaged in competition within the industries. Section 2.1 addresses the question about who compete in Chinese industries and under what condition. Categorised by the ownership characteristic, SOEs, FIEs and POEs are the main actors on the arena of business competition in Chinese industries. The hybrid ownership forms of listed companies and the COEs can be treated as independent forces or can simply be categorised into these three main types. Different categories of enterprises face an uneven playground, which has a strong impact on competitive situations in Chinese industries in which different ownership categories of firms compete with each other.

In the industries that have not been opened to inward FDI, competition is between domestic enterprises and industrial development is largely indigenous. In the industries that have been opened up to foreign entries, new competitive forces from abroad have been introduced and competitive situations in these industries are accordingly more complex than the 'closed' industries. The number of 'purely closed' industries has kept decreasing during the reform period. Most industries in the manufacturing sector have been opened to the foreign investors and FIEs have taken a significant share of total industrial output and value-added (see Subsection 2.1.2). To examine the effects delivered by the introduction of the new competitive force from outside China through inward FDI, this study focuses on manufacturing industries that have been opened to foreign entries. These 'open' industries now cover most manufacturing industries in China. The impact of inward FDI on market competition and the development of these industries remain largely unclear. After China's WTO entry, probably more FDI will flow into China and MNCs will play an increasingly important role in the economy. Should this require specific attention from competition policy towards FIEs? In addition, mergers and acquisitions are bound to be more important as an entry mode of FDI into China. Therefore merger related competition policy instrument is also likely to be called for. In short, the research on the FDI impact on competition and industrial development and the policy implications of this impact becomes especially urgent.

2.3.1 The New Context for FDI: Global Trends

The factors that propel economic development have not changed over time, but the global context for development has changed dramatically over the past decades. These changes affect not only the role of FDI in host countries, but also government policy on FDI. Now, most developing countries consider FDI as an impetus for development. The changed attitudes reflect their efforts to promote economic development and to improve their national competitiveness, or competitive advantage of nations.[55] The magnitude of FDI flows continued to set records through the last decade, before falling back in 2001 and 2002. The total value of worldwide FDI inflows reached a record US$ 1,300 billion in 2000, from just over US$ 200 billion in 1993. In 1980, total FDI stock represented the equivalent of only 5 percent of world GDP; by the end of the 1990s, this percentage had more than tripled to 17 percent (UNCTAD, 2001). However, the majority of world investment is largely concentrated in developed countries, which remain the prime destination of FDI. Over 80 percent of FDI inflows and over 90 percent of FDI outflows were located in developed countries (OECD, 2002a). The relative weights of different entry modes of FDI have shifted in recent years, as cross-border M&As substantially gaining importance. In the 1980-99 period, the value of cross-border M&As increased each year, by an average of 42 percent, to a level of US$ 1.15 trillion in 2000 (UNCTAD, 2000a; UNCTAD, 2001).

The growth of FDI was largely due to reduced investment impediments and improved investment environments. Commitments have been undertaken by developed countries to provide national treatment for foreign invested firms, to avoid discordant requirements on them and to improve the investment environment. Developing countries have also increasingly viewed FDI as a source of economic development. They have liberalised the entry of inward FDI, pursued policies to stimulate foreign investment, and gradually extended this process to the traditionally closed industries. Previous ownership and operation requirements imposed on FDI have also been considerably reduced and it is now common to allow foreign firms to transfer their profits abroad freely as well as to repatriate the capital invested.[56] The gradual abandonment of many FDI restrictions has been complemented by the adoption of standards of non-discrimination, national treatment and most-favoured-nation treatment for inward FDI.

Several factors induced greater changes in attitudes of developing countries towards FDI. First, facing the accelerating pace of technological change and the rising costs of innovation, developing countries had to rely on FDI to obtain new technologies. Second, facing the emergence of international production systems under the control of MNCs, developing countries had to invite MNCs in order to participate in these systems. Associated with these two factors, the third aspect is the role of MNCs in the promotion of national trade competitiveness. From the mid-1980s, significant changes have taken place in world trade. The most basic structural trend in trade patterns lies in fundamental change

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[55] In a context of increased internationalisation – many inappropriately refer to this process as 'globalisation' (see Van Tulder *et al*., 2001, Van den Berghe, 2003, for a critique), competitiveness is 'ability of economies to sustain income growth in an open setting' (Lall, 2000). Some neoliberalist economists (e.g. Krugman, 1994a), however, questioned whether national competitiveness is a legitimate policy concern for governments, and argued that firms compete with each other, not countries.

[56] See UNCTAD (1994, 1995, 1996a, 1997a, and 1998) for details.

in the total trade composition.[57] According to UNCTAD (2002), the trade value of manufactured products grew four times faster than that of primary products. At the same time, the share of parts and components in total trade was raising. Primary products and resource-based manufactures have steadily lost shares over the past several decades. This meant that the countries that specialised in these products might find it hard to sustain high export growth. Within manufactured products, growth was driven by technology-intensive exports (Lall, 1998). Exports grew faster the more advanced the level of technology and the less the reliance on natural resources. High-technology products were the most dynamic export category. MNCs played the dominant role in high-technology exports; their participation provided opportunities for developing countries to enter into this most dynamic area of export growth.

The falling impediments to international trade and investment flows since the mid-1980s dramatically changed the context in which MNCs operated. In addition to these trends of policy liberalisation, two other forces combined to form this new context: 1) the decreasing transaction cost to ease the international flow of goods, services and information, caused by advances in transport and telecommunication technology; 2) the stronger competition among MNCs in a growing range of industries. In this fast changing context, MNCs' proprietary assets, or ownership advantages, changed accordingly. This new context has not only invigorated global markets through arm's-length transactions but also given rise to elaborate corporate systems of organising the production process (UNCTAD, 2002). The rising complexity of this new context meant that rapid innovation and deployment of new technologies became more important for MNCs. They had to react by changing the ways to organise and manage their activities, the relations with suppliers, buyers and competitors, and the processes of technological change and innovation (Lall, 2000).

As a result, international production systems have emerged with which MNCs locate different parts of production processes across the globe, to take advantage of fine differences of costs, resources, logistics and markets (UNCTAD, 1993a). Compared to earlier organisational structures of MNC operations, the characteristics of international production systems are the intensity of integration on regional or global scale and the emphasis on the efficiency of the system as a whole (Kaplinsky, 2000). The rise of international production systems reflected the response of MNCs to dramatic changes in the international economic environment and their search for enhanced competitive advantage through an optimal configuration of where they produce and how they coordinate their production activities (UNCTAD, 2002). Evolving as MNCs respond to economic and technological forces, international production systems became of growing importance in shaping trade pattern, industrial structure and competitiveness of a national economy. With the theoretical development of international production systems, there has been a new discussion on the positive and negative effects of MNC presence on development in developing countries.

To acquire a portfolio of assets that contribute to maximise the competitive advantage of them, MNCs are increasingly shifting their mobile assets across the globe to find the best match with the immobile assets of different locations. The most important motivations underlying MNCs' location decision include resource-seeking, market-seeking,

[57] The basic classification of merchandise exports distinguishes between primary products and manufactures, with the latter further divided into four groups: resource-based, low-technology, medium-technology and high-technology products (for detailed description of each categories, see UNCTAD, 2002)

efficiency-seeking and strategic asset-seeking (OECD, 2002a). To get access to abundant or low-priced production factors in specific country is a major motive of FDI. Targeted production factors include natural resources and human resources. FDI that seeks to benefit from low-priced labour often occurs as MNCs respond to rising wage pressures at home by shifting labour-intensive production processes to developing countries. Access to host-country markets for processed goods is another important motive for investing in the manufacturing sectors of host countries. Sometimes MNCs seek to promote efficiency via FDI into host countries. This motivation increasingly goes beyond the simple reallocation of labour-intensive production. MNCs undertake FDI with the purpose of acquiring 'strategic assets' which might give them a competitive edge. According to UNCTAD (2002), three sorts of drivers acting simultaneously on the location decision of MNCs in international production systems. First, cost differentials remain a fundamental factor and are crucial to achieve systemic efficiency across the entire international production systems. Secondly, asset-seeking is another factor that leads MNCs to utilise skills and knowledge in a more systematic way on the global scale. Thirdly, clustering has become a key factor on MNCs' location decision-making. Increasingly, clustering becomes a global process reflecting the consensus by MNCs of the value of co-location with suppliers, competitors and service providers.

The opening up of markets gives MNCs a broader range of choice for their international expansion. It also makes them more selective in their choices of potential investment sites, which means the rivalry for attracting FDI among developing countries become harsher. Attracting MNCs' mobile assets requires host countries to improve the quality of their immobile assets. The ability to provide attractive immobile assets becomes a critical part of FDI attraction strategy for developing countries. According to the eclectic (O-L-I) paradigm, for a firm to choose FDI rather than exports as a mode of international expansion, there must be some location advantages in the foreign country. Location advantages may come in various forms: firms aiming at reducing costs may be attracted by the low prices of labour, land and other factors; firms wishing to expand their international market share may be attracted by a large home market; firms trying to get access to natural resources or strategic assets may be attracted by the availability of such resources or assets, and so on.

There is a vast literature on the location determinants of FDI. Multi-factor studies[58] emphasise some combinations of economic, social, geographical, political and cultural factors as determinants of FDI. UNCTAD (1998) categorised the location determinants of FDI into three main groups: economic determinants, the host country policy framework for FDI, and business facilitation. Lee and Houde (2000) generalised the six main location advantages: 1) market size and growth prospects, 2) natural and human resource endowments, 3) physical, financial and technological infrastructure, 4) openness to international trade and access to international markets, 5) the regulatory and policy framework, and 6) policy coherence. Some other determinants include the political and social stability, cultural distance and institutional distance (relatively to MNCs from different origins), geographic location and industrial relations.

Manifold factors play different roles in attracting FDI. Natural and human resource endowments determine the factor cost advantages and are important to attract the resource- and efficiency-seeking FDI. Differences in infrastructure, such as transportation and

[58] Major studies include Kobrin (1976), Root and Ahmed (1978), Schneider and Frey (1985), Koechlin (1992), Rolfe *et al*. (1993) and Grosse and Trevino (1996).

telecommunications, influence FDI location decisions of MNC not only amongst countries but also across regions within a country. A high degree of economic openness lowers the transaction cost of MNCs and attracts export-oriented FDI. The environment of a host country's government policy is of great importance. It influences the cost and the risk of doing business in a foreign environment. Political stability and industrial relations influencing the overall business environment are central concerns of MNCs in terms of the risk control of foreign investment. FDI is likely to flow to those areas with good accessibility and consequently lower transportation costs to facilitate logistics and to control costs. Countries or regions of a country with this geographical advantage will be more attractive to MNCs. As clustering becomes a more important factor influencing MNCs' location decision-making, the geographic advantage of specific regions becomes automatically reinforced.

Some determinants such as location, market size and factor endowments are natural-endowed and others, such as policy environment and infrastructure, are self-created. Some determinants such as government policies are relatively easy to change, while others such as location are unchangeable. In the long run, most factors are changing in an evolutionary manner and changeable by incisive government action. Cheap labour, for example, is not a sustainable advantage because increasing incomes will erode the edge it provides, which has been demonstrated by the experience of the East Asian NIEs. The public sector can play a decisive role in creating and strengthening a country's location advantages through supplying public goods and services, which include improving infrastructure, enhancing the education system and improving economic policies.[59] In a non-discriminative and national treatment policy setting, these public sector activities may increase the profitability of an investment project, not only of foreign companies but also of domestic firms. However, developing countries' shifts towards FDI liberalisation may have been carried out too far to not only remove all restraints to FDI flows but also to give super-national treatment to MNCs. A widely used instrument to attract FDI is the tax policy. Offering various incentives to attract FDI may be a rational policy in case that inward FDI generates positive growth effect, but it does provide an uneven playground for competition between domestic and foreign firms and accordingly distort the competition mechanism of markets. In addition, there is fear that the outcome of tax competition among countries will evolve into a 'race to the bottom' where the developing governments gain very little from FDI. International investment agreements are probably required in order to reduce such problems (Oman, 2000).

As the context of FDI changes rapidly, the determinants have increasingly shifted from natural endowments of resources, such as low-priced land and labour, to acquired endowments of resources, such as the availability of intermediate goods and skilled labour (OECD, 2002a). The availability of strategic assets such as innovative assets and sourcing facilities has become another important determinant in the location decisions of MNCs. High-level local technological capabilities are an important factor for attracting FDI in high value-added activities. In the new context for FDI, the most attractive location advantages for export-oriented MNCs are now world-class infrastructure, skilled and productive labour, and an agglomeration of efficient suppliers, competitors, support institutions and services (Puga and Venables, 1999). As MNCs increasingly consider efficiency and competitiveness in their location decision, the areas that can attract a large amount of inward FDI are usually those that allow MNCs to set up facilities to promote

[59] See Dunning and Narula (1996) for a thorough discussion.

efficiency and win the global competition. This means that the host country has to provide competitive immobile assets – infrastructure, services, supply networks and institutions – to complement the mobile assets of MNCs (Narula and Dunning, 1999). Low priced labour still remains a source of competitive advantage, but its importance is diminishing (Lall, 2000).

2.3.2 FDI and the Chinese Model of Economic Development

Economic internationalisation provides both opportunities and challenges to developing countries. Without active participation in the international economy, some developing countries face the risk of increasing marginalisation. On the other hand, as flows of goods, services, capital, technology and information between countries are increasing at unprecedented pace, developing countries face new opportunities for development. Inward FDI is an important vehicle for international resource flows to developing countries. FDI is important because it provide a package of tangible and intangible assets, which is crucial to economic advancement for developing countries. However, FDI is not the only source of capital and other resources, such as technology and human resources, for economic development. Countries may rely on their own resources and capabilities to develop. Several countries did build impressive competitive capabilities by restricting the market entry of MNCs. Many others have restricted foreign entry without being able to promote competitive domestic enterprises. Despite potential negative effects, inward FDI may be an efficient way for developing countries to enhance their technological capabilities and human resources (see Section 4.1 for a detailed discussion). Facing various constraints to develop and to take advantage of necessary resources for development, developing countries increasingly embrace a strategy for economic development that incorporates inward FDI as an important component.

China is one of the most popular investment destinations in the world (see Table 2-7 for FDI inflows between 1979 and 2003). FDI inflows increased rapidly in the first half of the 1990s when the Chinese government significantly liberalised its FDI regime, which consists of the encouragement, guidance and administration of FDI projects.[60] The regions open to FDI expanded significantly: major cities along the Yangtze River and most capital cities of interior provinces were opened up and numerous development zones were established. The Chinese government also decentralised the approval authority from the central government to local governments. In addition to the liberalisation of FDI regime, some scholars attributed the surge of FDI inflows to the improvements in the overall legal environment (Lardy, 1994; Fu, 2000). Because the incentives provided by the central government and the local governments to attract FDI, it is rational to conclude that China attracts a large amount of FDI because the government treats foreign firms better than domestic firms. Based on another line of reasoning that emphasised the factors that make domestic firms weaker rather than the factors that make foreign firms stronger, Huang (2003) argued that prominent institutional deficits of the Chinese economy explain the

[60] China's FDI regime includes a wide range of laws and regulations in the areas of legal enterprise forms, screening, administration for industry and commerce, investment direction (industrial and regional guidance), high-technology and export promotion, taxation, foreign currency management, intellectual property rights, financial market regulation, industrial relation, environment protection, land usage, accounting, foreign trade, and so on (see Subsection 5.1.3 for the policy on industrial guidance). The laws were enacted by the People's Congress and the regulations were promulgated by different government agencies.

pattern of FDI in China. The institutional deficits suggested by Huang are the policy favours SOEs at the expense of POEs, insecurity of private ownership and economic fragmentation.

Table 2-7 FDI inflows in China, 1979-2003

Year	*Number of projects*	*Contractual amount (US$ billion)*	*Realised amount (US$ billion)*	*Share of total investment (percent)*
1979-1982	920	5.0	1.8	/
1983	638	1.9	0.9	0.9
1984	2,166	2.9	1.4	1.6
1985	3,073	6.3	2.0	1.9
1986	1,498	3.3	2.2	2.1
1987	2,233	3.7	2.3	2.3
1988	5,945	5.3	3.2	2.5
1989	5,779	5.6	3.4	2.9
1990	7,273	6.6	3.5	3.7
1991	12,978	12.0	4.4	4.2
1992	48,764	58.1	11.0	7.5
1993	83,437	111.4	27.5	12.1
1994	47,549	82.7	33.8	17.1
1995	37,011	91.3	37.5	15.7
1996	24,556	73.3	41.7	15.1
1997	21,001	51.0	45.3	14.8
1998	19,799	52.1	45.5	13.2
1999	16,918	41.2	40.3	11.2
2000	22,347	62.4	40.7	10.3
2001	26,140	69.2	46.9	10.5
2002	34,171	82.8	52.7	10.1
2003	41,081	115.2	53.5	8.0*
Total	465,277	943.2	501.5	/

Source: MOFTEC (MOC) FDI Statistics.
Note: * Calculated by the author; exchange rate of the end of 2003 was used.

There have been generally three modes of entry: 1) Equity Joint Venture (EJV), 2) Contractual Joint Venture (CJV), and 3) Wholly Foreign-Owned Enterprises (WFOE).[61] Another legal form of FIEs is Foreign Invested Joint-Stock Companies (FIJSCs). FIJSCs can be established according to the Company Law and a specific regulation.[62] The equity and contractual joint venture has been the main choice of entry modes, accounting for 65.7 percent of projects and 59.1 percent of contractual amount until 2002.[63] In terms of realised amount, EJVs and CJVs have taken 61.0 percent and WFOEs have taken 37.0 percent. The industrial sector has been the main target of inward FDI: 75.4 percent of

[61] Three different laws have been enacted to provide provisions for the three forms of FIEs respectively.
[62] The 'Interim Provisions on Several Issues Concerning the Establishment of Foreign Invested Joint-Stock Companies' promulgated in 1995 by the MOFTEC. According to the Company Law of China, there are two forms of companies – Limited-liability Company and Joint-stock Company (a company owned by parts who have bought share in it). The EJV, CJV and WFOE usually belong to the first category; while the FIJSC belongs to the second.
[63] The contractual amount of FDI refers to the value of foreign investment specified in the investment contracts signed in a specific year. The amount of realised amount of FDI refers to the actually invested foreign capital in a specific year. Since 2004, the scope of China's FDI statistics has been revised – the contractual amount of FDI refers the foreign part of registered capital of a FIE, and the realised amount of FDI refers to the injected foreign capital specified by the capital certificate report.

projects and 66.1 percent of the contractual amount of FDI focused on manufacturing as of 2002. In the all FDI projects, the large-scale projects with contractual amount above US$ 10 million has accounted for 2.9 percent of all projects but 51.4 percent of all contractual amount. The geographic distribution of FDI is concentrated to the costal areas: until 2002, 86.1 percent of FDI has flowed to the Eastern provinces. Until the end of 2002, 45 percent of total FDI inflows had been from Hong Kong, with realised FDI amounted US$ 204.9 billion. Other FDI sources within the top 10 include: the United States (8.9 percent), Japan (8.1 percent), Taiwan (7.4 percent), Virgin Islands (5.4 percent), Singapore (4.8 percent), South Korea (3.4 percent), the United Kingdom (2.4 percent), Germany (1.8 percent) and France (1.2 percent).[64] The significance of Hong Kong as a source region of FDI inflows has stimulated the speculation of 'Round-trip FDI', referring to the domestic capital that first flowed out of China then flowed back in order to take advantage of the FDI incentives.[65]

In fact, much of China's FDI inflows have been from the ethnically Chinese economies: Hong Kong, Taiwan, Macao and Singapore. Investment from these four sources had accounted for 59.0 percent of total FDI inflows until 2002. According to Wei (1995), the investors from the ethnically Chinese economies possess cultural advantages when investing in China. In a poor legal system, cultural and ethnic proximity helps reduce the high transaction costs of doing business. This cultural perspective has provided the most convincing explanation for the composition of FDI sources. Host countries with larger market size, faster economic growth and a higher level of income will be more attractive for the market-seeking FDI. The empirical studies on the determinants of FDI in China have indicated that market size (measured by GDP) and income level (measured by GDP per capita) has a positive effect on FDI inflows (Wei, 1995, 2000; Dees, 1998; Wei and Liu, 2001), which reflected the market-seeking motives of foreign investors. The low labour costs, relatively large volume of exports and the depreciation of the Chinese currency have been argued to be important determinants (Dees, 1998; Wei and Liu, 2001). It is also found that FDI inflows are positively and significantly influenced, for instance, by geographic proximity (Wei, 1995, 2000), by adult literacy rate (Wei, 1995), by linguistic ties (Wei, 2000) and by borrowing costs (Wei and Liu, 2001). An investment project involves a long-term exposure to the economic, political and social context in the host country and MNCs therefore look for a stable business environment to ensure that the smooth and safe running of their business. Political and social stability forms the general background of a host country's FDI policy. Countries with a record of economic, political and social stability are likely to be attractive to foreign investment (Lipsey, 1999). Empirical studies have indicated that FDI inflows are negatively related to corruption and regulatory burden (Wei, 2000), country risk and cultural differences (Wei and Liu, 2001).[66]

It is relatively obvious to conclude that inward FDI has been a driving force behind China's economic success (cf. Lardy, 1996; World Bank, 1997b). The contribution that FDI has made to the Chinese economy during the period since 1980 and especially since 1992 has been considerable. But the exact effect is less easy to assess. The contribution of

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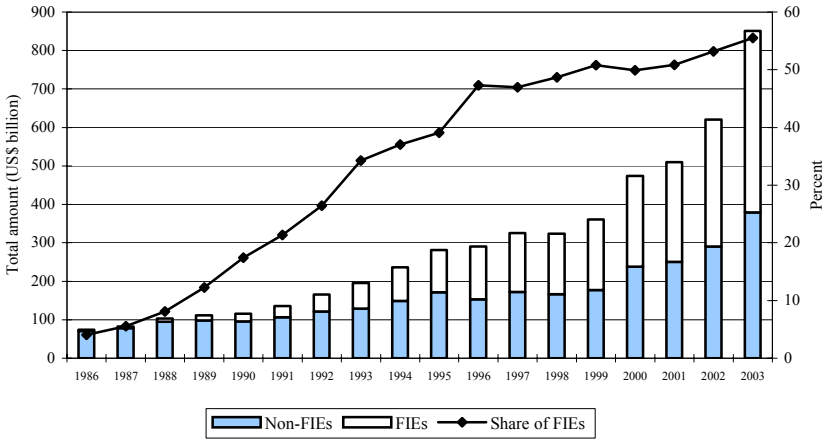
[64] The data in this paragraph is according to MOFTEC.

[65] See World Bank (1996), Huang (1998, 2003) and Tseng and Zebregs (2002) for the discussions of this issue. World Bank estimated 'round-trip FDI' at around 25 percent of total FDI inflows in 1992. Tseng and Zebregs (2002) estimated that 'round-trip FDI' in 1996 accounted for 7 percent of total FDI inflow.

[66] See Wei (2003) for a detailed discussion for the determinants of FDI in China, including a review of the studies at the regional level (for example, Chen, 1996; Wei *et al.*, 1999; Cheng and Kwan, 2000).

FDI to capital formation was constantly over 10 percent between 1993 and 2002 despite a decreasing trend since 1994 (see Table 2-7). The role of FIEs in the economy, in terms of the contribution to total industrial output and value-added, has been increasingly significant (see Figure 2-2 and Table 2-1). FIEs in China have also been instrumental in increasing China's trade openness, particularly since the late 1990s as FDI inflows have shifted toward capital- and technology-intensive export sectors. The share of FIEs in the value of total imports and exports increased rapidly and FIEs accounted for 55 percent of the total value in 2003 (Figure 2-5).

Figure 2-5 Total amount of China's imports and exports, 1986-2003



Source: MOFTEC.

Inward FDI has played an important role in the economic growth of many localities as well. Clustering accelerated this process and contributed greatly to local development, especially in the Pearl River Delta and Yangtze River Delta regions. Suzhou, a city in Jiangsu Province, and Dongguan, a city in Guangdong Province, are typical examples. Dongguan for instance has become one of the largest light-manufacturing bases in the world and the largest computer peripheral production base and sourcing centre. Dongguan's output of computer magnetic heads, motherboards, monitors, power supplies, scanners, disk drives and micro-motors ranks first in the world. Following rapid industrial clustering, which accelerated in recent years, 90 percent of electronic accessories can be purchased in the Pearl River Delta; for computers, 95 percent accessories are available locally. FDI inflows totalled US$ 11.27 billion by the end of 2001 and FIEs, numbering 3,610 in 2002, accounted for over 80 percent of the city's total industrial output. These are also over 10,000 local enterprises undertaking outward processing for FIEs. FDI in Dongguan has been mainly from Taiwan and Hong Kong, but now over 30 of the *Fortune 500* companies have invested in Dongguan as well. After growing at an annual rate of 20 percent in the last 20 years, Dongguan is now China's third largest exporting city, after Shenzhen and Shanghai. Its economy is export-oriented, with 85 percent of its industrial output relating to exports. In 2001, the amount of exports was US$19 billion, 270 percent of the city's GDP.

Considerable qualitative evidence on the positive effects of FDI on the Chinese economy has been suggested (e.g. Kueh, 1992; Lardy, 1995; Huang, 1998; Henley *et al.*, 1999). Most statistical evidence has been reported by cross-regional studies that simply treat FDI as an exogenous variable. Wei (1994) found that FDI is positively correlated with cross-city differences in growth rates in China. Similar conclusions have been reported by other studies, such as Chen *et al.* (1995), Sun (1998), Dayal-Gulati and Husain (2000), Sun and Parikh (2001), Wei and Liu (2001), Zhang (2001) and Zhang and Felmingham (2002). FDI may cause rapid economic growth or be attracted by it. With regard to the causal direction, Shan *et al.* (1999) and Zhang (1999) found a mutual-causal relationship between FDI and economic growth. Taking explicitly the problem of mutual-causality into account, Berthélemy and Démurger (2000) confirmed that FDI played a vital role in China's economic growth. But several studies have identified variations over time for the relationship between FDI and economic growth by conducting analysis for sub-periods. Zhang (2001) suggested that the impact of FDI on economic growth increased over the periods of 1984-88, 1989-93 and 1994-98. Dayal-Gulati and Husain (2000) indicated that the FDI effect on economic growth was stronger in the 1993-97 period than in the 1983-87 period and FDI did not play a significant role during the 1988-1992 period. One prominent view of the various studies remains that FDI has had significant effects on China's economic growth. Cross-regional studies on the relationship between FDI and economic growth, as well as the literature on regional disparities discussed in Subsection 2.1.4, also gave a strong indication that costal regions have benefited more from FDI than the rest of the country.

The literature on the FDI effect on China's economic growth has limitations. First, the utilisation of the aggregate data can only capture the net impact of FDI and some negative effects cannot be identified by the aggregate approach (Wei, 2003). Second, the mechanisms through which FDI promoted economic growth have not been identified with precision. Although some studies (e.g. Chen *et al.* 1995; Dayal-Gulati and Husain, 2000) have addressed mechanisms such as technology transfer, there is a lack of precision (Wei, 2003).[67] The widely adopted approach of cross-regional studies has prevented scholars to fill the gaps. FDI is, fundamentally, a microeconomic rather than a macroeconomic phenomenon. However, the existing accounts of China's inward FDI has been mainly at the macro level. A limited number of empirical studies paid specific attention to understanding the role of FDI on the development of Chinese industries.[68] Zhang and Taylor (2001) investigated the technology transfer through FDI in China's automotive industry. The productivity spillovers from FDI in Chinese industries have been studied by a number of studies, e.g. Fan and Warr (2000)'s study on China's low- and medium-technology industries, Liu *et al.* (2001) and Wei and Liu (2001)'s studies on China's electronics industry. Some more recent studies examined FDI spillovers in Chinese industries (Hu, 2001; Hu and Jefferson, 2002; Buckley *et al.*, 2002; Liu and Wang, 2003; Cheung and Lin, 2004). UNCTAD (2002) claimed that China has been one of the principle

[67] Studies particularly focused on technology transfer associated with FDI include: Lan (1996), Sun (1996), Young and Lan (1997), Fan and Warr (2000), Bennett *et al.* (2001), Liu *et al.* (2001), Zhang and Taylor (2001), Wei and Liu (2001) and Thompson (2002). Sun (1996) addressed FDI and the linkage effects in China. Lan (1996) and Young and Lan (1997) were based on a case study of the city of Dalian. Bennett *et al.* (2001) was based on the study of the strategies of 20 EU firms operating in China. Thompson (2002) studied 84 garment firms from Hong Kong.

[68] Some notable studies in the Chinese academia include Jiang (2002, in Chinese), Jiang and Li (2002, in Chinese) and Peking University (2004, in Chinese).

beneficiaries of MNC participation in high technology production and export. Despite the good performance at the aggregate level, however, it has been acknowledged that some Chinese industries have been characterised by low international competitiveness and innovative incapability even with significant MNC presence. A recent comparative studies conducted by Mckinsey Global Institute (2003) on five industries in four major developing economies (Brazil, Mexico, China and India) has provided in-depth accounts of the impact of FDI on industrial development in the industries of automotive and consumer electronics in China. General conclusion was reached that both the incentives used to attract FDI and the restrictions placed on it are largely ineffective and frequently counterproductive.

Due to the lack of industry-level evidence, the existing accounts cannot adequately explain how FDI contributes to economic growth through promoting the development of different industries and through the growth of enterprises in these industries. As a new competitive force in the economy, have FIEs helped or hampered China's industrial development? What have been the benefits and costs of Chinese approach of attracting and managing FDI materialised in different industries? What are their policy implications for industrial development? As an important source of economic growth, inward FDI has become an integral part of the Chinese model of economic development. The sustainability of this model is highlighted by many factors: the increasingly improvement of China's investment climate, the rapidly growing size of the Chinese market, and the seemingly endless supply of cheap labour as noted in Subsection 1.4.2. In addition, the Asian financial crisis also demonstrated that FDI was more stable than other forms of capital inflows. The necessity to examine the degree of competition in industries, illustrated in Section 2.2.3, the importance of FDI to the Chinese model of economic development, and the gaps remaining in the literature on China's FDI have made a case for the need for a new approach to FDI study at the industry- and firm-level.

2.3.3 FDI, Competition and Industrial Development: What Are the Implications for Government Policies?

Actively attracting FDI inflows has become an integral element of the Chinese model of economic development. Generally speaking, inward FDI has introduced a competitive force into the Chinese economy and contributed to the expansion of a private sector in China. At the industry level, however, the exact impacts of inward FDI and MNC presence on market competition and industrial development remain largely unclear. What has been the role played by the new competitive force from abroad through FDI for industrial development? What has been the impact of FDI materialised on the basis of the mechanism of market competition rather than through the channels such as spillovers and linkage? What are the policy implications of the FDI impact on competition and industrial development? FDI may deliver considerable benefits to industrial development. However, the potential costs should not be neglected. With regard to the potential anticompetitive effect of inward FDI, the traditional wisdom is that FDI may increase market concentration and lead to dominant positions of MNCs after entry by suppressing or crowding out domestic firms. The firm-specific advantages of MNCs may raise barriers to entry for local firms or make competition too strong for existing local firms and thus crowd them out, therefore increasing concentration and restricting competition. Does this hold true in the specific economic and industrial context of Chinese industries?

The primary aim of this study is to examine FDI as an industrial phenomenon – how FDI inflows and therefore the introduction of a new competitive force into Chinese industries have influenced the development of them. What has been the role of government

policies in determining the FDI impact on industrial development? How to improve the current policy framework to make inward FDI play a more positive role in promoting industrial development? FDI cannot by itself promote long-term industrial development, which is largely dependent upon the well-functioning domestic markets. The benefits of FDI liberalisation to particular industries will rely not only on the inflow of foreign capital and associated resources but also on the restructuring of domestic industries and accordingly the effective reallocation of resources, which is crucially dependent upon a well-functioning market in which the competition mechanism plays a vital role.

FDI might increase competition of domestic markets but could also lead to abuses of market dominance and anticompetitive practices of MNCs. Governments in some developing countries are sometimes so anxious to attract FDI that they agree to offer MNCs various kinds of arrangements that grant market dominance with legal protection against competition, in exchange for capital injection and technology transfer. In China, a strategy named 'market for technology' has been adopted, requiring foreign firms to transfer technology in return for market access. Whether this strategy has been successful depends in part on the balance between the positive impact brought by FDI through its structural as well as dynamic effects and the associated costs of the positive impact: to what extent not only market access but also market dominance have been 'given' to MNCs in the expense of domestic firms and with the tolerance of MNCs' anticompetitive practices. For developing countries with a high degree of economic openness and a large amount of FDI inflows, the interrelationship among FDI, competition and industrial development as well as its policy implications would be prominent. For China, which has already been the largest recipient of FDI, this concern is of particular importance. The contribution that FDI has made to the Chinese economy during the reform period, as discussed earlier, has been considerable. However, empirical studies that can provide a full picture and a balanced view have not been presented yet.

Since 2002, China has surpassed the United States to become the largest recipient of FDI in the world. After China's WTO entry, there is a time schedule for further opening up of the protected and restricted sectors to foreign investors. Predictably, more inward FDI will flow into China and MNCs will play an increasingly important role in the economy. Should this require specific attention from competition policy towards FIEs? In addition, foreign M&As will be more important an entry mode of FDI into China and a merger control system is also being called for. China's FDI inflows have consisted of mainly greenfield investment and the scale of the foreign M&As has been limited and still not included in the FDI statistics of MOFTEC (MOC since 2003). The limitation of M&As as a mode of market entry in China was generally in line with in other developing countries. Trends in the entry mode of FDI in developing countries differ considerably from those in developed countries, where greenfield investment continues to dominate. However, driven by privatisation, M&As have become an increasingly important entry mode in developing countries as well in recent years. Two-thirds of FDI inflows to developing countries are greenfield investment, although there are important regional differences: the percentage of FDI that took the form of M&A in Latin America increased from 18 percent in the 1987-89 period to 54 percent in the 1998-2000 period; in Asia, this percentage increased from 8 to 20 percent for the same period (UNCATD, 2001). In recent years, attracting FDI in the mode of foreign M&As has become an important policy concern of the Chinese government. Thus the study on the relation of foreign M&As and government policy becomes especially urgent.

Does a unique Chinese model of economic development that has been largely characterised by the collaboration between a developmental state and MNCs need unique

institutional arrangements to sustain? What will be the role of a regime of competition policy in establishing an appropriate set of market-supporting institutions? How to build up an appropriate policy framework to maximise the benefits of FDI for industrial development while mitigating the costs? To answer these questions for China, empirical studies on the FDI impact on competition and industrial development in Chinese industries is crucial. Establishing an appropriate policy framework requires the support of sound policy-oriented research. Analytical works on the benefits and costs of FDI at the industry level can help to explain the relevance of government policies and to develop a suitable legal and administrative framework.

The central research question of this study thus concerns the effects of FDI on competition and industrial development in China. The unit of analysis is at the industry level. The complexity of the central research question requires a research strategy that combines the analysis of both industry- and firm-level data, on the one hand, with in-depth case studies of specific industries, on the other. According to Geroski and Mata (2001), four different approaches can be used to study what takes place in industries. The first is the case study of a specific sector. This traditional approach remains valued because it is possible to combine qualitative and quantitative data in an insightful way in a case study. The weakness of the case study approach is that case studies cannot easily generalise in a widely accepted convincing manner. The second approach is the cross-section econometric study, which expands thinking from the minutia of particular cases to the broad features that many industries share in common. The weakness of this approach is that there are many important features of markets and industries that are very difficult to measure and, therefore, control for. The third approach is the to panel data econometric study, through which not only can important unobservable variables be controlled for using fixed effects in a panel, but the times series dimension of such data enables one to take account of market dynamics. The fourth approach is the longitudinal case study, which covers almost the entire history of a particular industry. They are alternative to panel data study because they contain a long times series, giving one enough data to make solid inferences about market dynamics and removing the worry that particular panels may reflect the features of the specific period over which they are constructed. The methodology adopted to study what took place in Chinese industries in this study is a structural combination of the above approaches. The hypothesis-testing econometric research is used for analysing within-case data within a general framework of a ‘two-case’ case study approach and subordinate single- and multiple-case studies.

The underlying premise of this study is that industrial development is multi-faceted and that inward FDI can influence industrial development through manifold channels among which competition is central. Focusing on only one aspect of the process of industrial development may result in misleading conclusions and policy recommendations. As we consider multiple dimensions of industrial development, including the progress of the scale, efficiency and competitiveness of industries, the case study approach is particularly valuable because it is possible to combine qualitative and quantitative analysis in both an insightful and a comprehensive way. Because we focus on the competition mechanism though which FDI influences industrial development, the relationship between FDI and competition is the central concern of this study. The models examining the relation between FDI and competition have typically involved a cross-sectional equation with a measure of FDI as one of the determinants of concentration. The deficits of this standard approach further highlight the advantages of case studies (see Subsection 4.2.1 for a detailed discussion). A central proposition of this study is that patterns of government policy, which can be simply categorised as procompetitive and anticompetitive, could lead

to different degrees of competition in markets thereby largely determine the FDI impact on industrial development. Therefore a 'two-case' case study approach is adopted, supplemented by an overall assessment of the impact of FDI on China's industrial sector. Eisenhardt (1989) emphasised the role of case studies in building theory and proposed a tactic to search cross-case patterns by selecting pairs of cases and then to list the similarities and differences between each pair. Glaser and Strauss (1967) and Strauss (1987) have detailed their comparative case study approach for developing grounded theory. As suggested by Cameron and Quinn (1988), creative insights often arise from the juxtaposition of contradictory or paradoxical evidence. A method of 'structured and focused comparison' was emphasised by George and Mckeown (1985). King *et al*. (1994) addressed standards for valid inference. The 'two-case' case study approach presents an insightful comparison and, therefore, facilitates causal inference and theory building. The analysis of within-case data is mainly quantitative, utilising both cross-sectional and panel data econometrics to test hypotheses concerning the research question(s). With the two cases, manifold aspects of the development of two industries are compared and the causal relationship between government policy patterns and the FDI impact on industrial development is generalised. Covering almost the entire history of a particular industry with FDI presence and utilising panel data econometrics, the methodology can be considered as a longitudinal case study at the industry level. The within-case data analysis is generally at the firm level and both cross-sectional and panel data econometrics is adopted.

This study seeks to advance the understanding of the FDI impact on competition and industrial development in emerging markets. There are a number of possible approaches one could take to such a project. One approach would be to begin with certain predetermined theories and then use China to test these theories. China is indeed an important test case for general theories and such an approach has obvious advantages. However, certain costs associated with this approach. First, relying in the context of a very large transition economy on predetermined theories drawn from the experience of very different economies is dangerous. Secondly, existing theories pertaining to the relationship between FDI and industrial development is generally static and cannot really explain nor map the dynamic process though which FDI influence industrial development in emerging markets. The approach adopted by this study is somewhat different. We do not expressly start with the objective of testing China against any predetermined theory. Rather, we address a number of theoretical gaps and develop a more dynamic theory on the basis of an eclectic use of theories in Part II, and then test a number of Chinese industries against this dynamic theory in Part III. In part IV, general conclusions are drawn and policy recommendations are provided.

Part II Theoretical Underpinning

This theoretical part is dedicated to reviewing the literature on the relationship between inward Foreign Direct Investment (FDI), competition and industrial development. It further seeks to fill existing theoretical gaps and to provide both a conceptual framework and a methodological case for the empirical scrutiny in Part III. As argued by Yin (2003), theory development prior to the collection of any data is an essential step in doing case study. The research design also should benefit from the development of such a theoretical framework. To provide a foundation for theoretical inquiry into the relationship between competition and industrial advancement, this part begins with a more general discussion on the relationship between competition and economic development at the macro level. The notion of competition differs widely among different schools of economics. Furthermore, the ways in which competition is perceived to work and contribute to development differ widely among economists, public officials and business people. Competition is multidimensional and may have desirable or undesirable effects on economic development – often depending on the circumstance under which it evolves. In the short run, as emphasised by the neoclassical economics, competition is necessary to ensure that allocative and X-efficiency is achieved and consumer welfare is maximised. Moreover these basic functions of competition are rather static and they need to be complemented by some dynamic functions: despite ongoing theoretical debates, competition is generally considered to be an impetus behind the technological progress and thus long-term economic growth. But it is difficult to assess these effects in a developing country where market imperfections are manifold.

Competition policy is supposed to be the central institution that maintains and protects competition. One commonly expressed objective of competition policy is the prevention of the abuse of market dominance thereby to protect consumers and to promote efficiency. However, countries may have been able to maintain considerable degree of market competition despite the absence of a *de jure* competition policy. Developing countries should first make clear whether the rationale of competition policy, usually clarified by economists from and for developed countries, also holds true for developing countries? For policy reform and institutional change, however, rationale does not necessarily mean necessity. Is there truly a need for a *de jure* competition policy in developing countries? In case that effective *de facto* competition maintenance mechanisms are in place, is there a need to replace or supplement them with a formal competition policy? For different developing countries at different development levels and facing different development problems, there seems to be no uniform answers to these questions. The necessity of competition policy for developing countries is contingent upon particular issues, among which the effect of inward FDI is a crucial one.

The economic effects of inward FDI on developing countries can run from the

microeconomic level to the aggregative level. A large body of literature has been directed to stressing the benefits of FDI for developing countries, mainly in terms of its positive effect at the macro level. The effects of FDI on the performance of industries, however, raise critical questions since economic development is based upon the development of a large variety of industries. The impact of FDI on the structure of industries raises the first concern. Another theme arises in connection with the technological progress in industries and the innovation conducted by firms. FDI can not only transfer new technology to domestic industries but also help build capability and promote activities that generate new technology in host countries. It remains to be explored whether and in what way the complicated interactions among foreign firms, domestic firms and government policies can be beneficially integrated into the dynamic process of industrial development.

FDI provides developing countries with a mixture of positive and negative effects. Effective FDI policy is therefore a demanding task for the governments of developing countries. The challenge lies in taking measures to maximise one and minimise the other. There remains substantial need for government policies, but less and less in the traditional version of widespread intervention and strict protection. A passive *laissez faire* approach seems equally insufficient due to the existence of market failures in general and those related to inward FDI in particular. Competition could be a central mechanism through which FDI can promote the development of industries. It is hard to imagine that the benefits of FDI on industrial development can be achieved without a well-functioning competitive market. But inward FDI could possibly lead to market dominance and the abuse of it as well, thus creating additional market failures. Therefore, addressing the interface between competition policy and inward FDI is part of the policy challenge facing a developing country.

3 Competition and Economic Development: Theoretical and Policy Concerns for Developing Countries

Competition is multidimensional and can have desirable effects on economic development. The theoretical rationale of competition policy basically originates from the economic analysis of monopoly. Economists always argued that competitive market structure would increase consumer choice and welfare, while monopoly tends to lead to the opposite. There is market failure where competition mechanism cannot function well as a result of the actions of individual firms or groups of firms acting together. As a consequence, competition policy is necessary to maintain or restore competition and accordingly ensure that economic efficiency[1] is rewarded and consumer welfare is maximised. Does this rationale of competition policy, usually clarified by economists in developed countries according to the economic circumstance in developed countries, hold true for developing countries? There is still no systematic research available to demonstrate the rationale of competition policy for developing countries, or for countries at different levels of development. For developing countries, a central objective is the promotion of long-term economic growth. From the standpoint of economic development, to what extent is the essential focus of competition policy on allocative efficiency and consumer welfare consistent with the goal of development? In case of inconsistencies, does it mean that competition policy is not necessary for developing countries, or that developing countries need their own kind of competition policy, or that competition policy should be implemented differently in developing countries?

This chapter reviews the existing literature and investigates the theoretical interrelationship between competition, competition policy and economic development. Different notions of competition are used in different schools of economic thoughts. Section 3.1 addresses these competing concepts of competition. The causal relationship between competition policy and development is generally based upon the relation between competition policy and competition, which is addressed in the second section, and the linkage between competition and development, which is examined in the third section. Section 3.2 analyses the objectives, instruments and implementation modes of competition policy, investigating why and how competition policy can maintain and protect competition. Section 3.3 examines the relationship between competition and development from manifold perspectives and on the basis of various schools of economic theory. By so doing, this section investigates the rationale of competition policy for developing countries. For policy reform and institutional change, 'rationale' does not necessarily mean 'necessity'. What theoretical analysis provides is rationale, while the necessity lies in real

[1] Two types of efficiency are generally distinguished: allocative efficiency and dynamic (or technical) efficiency. See also Section 3.1 for a discussion of X-efficiency.

needs. Section 3.4 then evaluates the necessity of competition policy for developing countries, focusing particularly on a number of practical issues – with appropriate reference to the theoretical concerns related to these practical issues.

3.1 Competing Concepts of Competition: From Smith to Neo-Schumpeterians

Competition is so important in economic theory that it is difficult to imagine economics as a social discipline without it (Demsetz, 1982a). However, the notion of competition differs widely among different schools of economics. The history of economics has provided fundamentally different views on the meaning of competition. The classical economic literature emphasised price determination through the notion of competition as replacing ethically and politically oriented price administration as the focus of economic analysis (McNulty, 1967). Competition acts as a force that would, in the long run, eliminate excess profits and unsatisfied demand. The ability of rivals to seek out and compete away supernormal profits was believed to be the basic reason for the pervasiveness of competition (Stigler, 1987). According to Adam Smith, competition is the prerequisite that shelters freedom of decision and action of self-interested individuals from leading to anarchy or chaos but rather to economically optimal, socially fair and desirable market results.

As a central notion of the classical economics, the concept of competition is loosely drawn and is generally depicted as a process of rivalry. According to Smith, competition takes place among buyers or sellers in one market or industry, or takes place across markets or industries. On the one hand, the competition within a market or an industry brings market prices to their 'natural' level. Smith explained why a reduced supply of a good led to a higher price: the 'competition [which] will immediately begin' among buyers would bid up the price. Similarly, when the supply is excessive, the price would sink more, the greater 'the competition of the sellers'.[2] Here competition was very much interpreted as a race among buyers or sellers; the greater the number of each, naturally, the greater the vigour of the race. On the other hand, the competition among industries for the use of the same resources equalises returns across various uses of resources. On the basis of this notion of competition, Smith developed one of the central themes on resource allocation in the market economy – each owner of a productive resource will seek to employ it where it will yield the largest return; as a result, under competition each resource will be so distributed that it yields the same rate of return in every use.

For almost a century after the publication of the *Wealth of Nations* in 1776, the prevailing treatment of competition followed the tradition of Smith. The lack of a precise definition of competition in the classical economics was partly because monopoly was highly exceptional at the time (Stigler, 1987). This situation changed in the late 19th century as large-scale enterprises rapidly grew up. Meanwhile, the expanding usage of mathematics gave birth to the formal and abstract theory of economics by Walra, Marshall and Pareto. Therefore more precise specification of the nature of competition needed to be formulised. Neoclassical economics took the concept of competition into a different direction. The development of the concept of 'perfect competition' was initiated by Augustin Cournot in 1838 in his *Mathematical Principles of the Theory of Wealth* and continued through the works of Edgeworth (1881), Clark (1914) and Knight (1921, 1946).

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[2] Smith (1776), 1976: 73-74.

The formulation of the model of perfect competition was completed in the work of Knight (1921, 1946) and this concept increasingly became the standard model of economic theory thereafter. The perfect competition model is useful for evaluating the outcome of competition in a special case defined by its assumptions– homogeneous good, perfect information, price taking, no transaction costs, no externalities, perfect divisibility of output, and free entry and exit. Because of these strong assumptions, perfect competition can never be encountered in the real world. However, the perfect competition model provides a benchmark for analytical purposes and presents an ideal abstract against which to compare other theoretical models or actual markets. The development of the concept of competition has acquired a growing role as the criterion by which to judge the efficiency of actual markets (Stigler, 1987). The desirable properties of a perfectly competitive market fundamentally explain why economists in general are so in favour of 'competition'.

The neoclassical approach emphasises the equilibrium analysis of the market. In neoclassical economics, the concept of competition is built around the notion of a convergence of prices towards equilibrium of supply and demand and is formally presented in the idea of perfect competition. It focuses on the effects of competition rather than the underlying behavioural process that characterises competition. The neoclassical interpretation of competition as leading the economic system to equilibrium is fundamentally different from classical economic thoughts. The classical economists related the concept of competition to competitive behaviour, while the neoclassical view shows no interest in analysing competition itself but is more concerned with the outcome of it. In fact, the perfect competition model provides the primary analytical tool for understanding the role of price system in a decentralised economy (Demsetz, 1989). On the one hand, the perfect competition model focuses on understanding the functioning of decentralised market structure, in which there is no participant whose buy or sell decision are a significant fraction of the market. Thus it was argued by Demsetz (1989) that the perfect competition model is better named the perfect decentralisation model. On the other hand, as suggested by Demsetz (1982a), the perfect competition model could be seen as a tool for understanding the price system, but not for understanding competition. Thus it presents a natural evolution from the central interests of the classical economists on the price system.

The comparative-static nature of neoclassical economics determines that it views competition as a state rather than a process as envisaged by classical economists, whilst price became a parameter rather than a variable. Under neoclassical economics, the concepts of competition and the market have become merged. As Hayek (1948) emphasised, the neoclassical concept of perfect competition describes an equilibrium situation buy says nothing about the competitive process which lead to that equilibrium. It actually robs the firm of all business activities that might reasonably be associated with the verb 'to compete'. Thus, as Hayek argued, perfect competition in fact meant the absence of competitive activities. Following the neoclassical approach, the economic analysis of competition has long been focusing on price competition, with the market being viewed as the mechanism for resource reallocation and with prices acting as a signalling system.

A number of schools of economic thoughts have expressed fundamentally differing concepts of competition. More subtle issues associated with competition are raised for instance by the Austrian approach, which emphasises on actual market activities and processes. The essence of Austrian economics is its emphasis on the ongoing economic process as opposed to the equilibrium analysis of neoclassical economics (McNulty, 1987). The Austrian school views competition as a mechanism of virtuous selection in line with the Darwinian notion of natural selection: competitive pressures continually eliminate the

weak and inefficient, allowing the fittest to survive and prosper. Hayek attributes a different feature to competition than did neoclassical theory: namely its incapability to discover better ways to use economic resources by allowing more competent and efficient behaviour to prevail (Egidi, 1996). The Austrian school views competition as a dynamic process in which entrepreneurs seek new profit opportunities in a world of constant change. In contrast to static neoclassical theory, firms are interested in change over the relatively long run and profits earned by successful entrepreneurs are not viewed as inefficiencies but as signals of response to changing market conditions. This approach is rooted in an alternative understanding of the nature of the firm – the behavioural theory of the firm other than the simple notion that treats firm as a production function in neoclassical economics. The Austrian school emphasises firms' learning capabilities and adaptive activities and the interactions between these activities (Metcalfe, 2000). This entails a shift from perceiving competition in terms of a state of equilibrium, characterised by different ideal patterns of market structure, towards conceptualising competition as a process of change, premised on the existence of the differential behaviour.

Schumpeter extended the Austrian School's concept of competition, even though couched in terms very similar to the Austrians'. The entrepreneur, a neglected figure in classical and neoclassical economics, is the central figure in the Schumpeterian analytical framework. According to Schumpeter, the entrepreneur plays a role of disequilibrating by innovating – by introducing new products, new technologies, new markets, new sources of raw materials, and so on. By emphasising innovative behaviour as individualistic, 'heroic' actions, Shumpeter argued that competition is primarily a process of the creation and diffusion of new knowledge within the economic system under conditions of rivalry; a process which has important reallocative effects and presumes conditions of market failure (Egidi, 1996). In contrast to Hayek's view that competition is a process of virtuous selection, Schumpert's competition is a process of extensive search for innovations. This perspectives views competition less in terms of price but in terms a dynamic process of various types of innovation – not exclusively technological innovations but also organisational and institutional innovations. The distinction between Ricardian short-term allocative efficiency and Schumpeterian long-term dynamic efficiency[3] is therefore highlighted by the neo-Schumpeterians (Yoshitomo, 1991). Contrary to the neoclassical equilibrium concept of competition, Schumpeterian competition is a process of 'creative destruction' based on search, innovation and imitation. At the centre of Schumpeter's concept of competition is the innovative search within enterprises. For competing firms, successful innovative searches not only reduce costs and keep quality and performance standards ahead, but also force other firms to adjust rapidly so as to catch up with the innovation cycle. Schumpeterian competition is concerned with the process of adaptive learning and the creation of novelty. It is by this change in approach that attention is switched to the strategic, cognitive and organisational aspects of firms, which explain why they behave differently (Arthur and Lane, 1993).

Schumpeter and neo-Schumpeterians argued that it is not price competition but the specific search for new innovative solutions shaping the economy. This type of competition leads to cost and quality advantages and shapes the competitive position of enterprises. Because Schumpeter did not focus on the innovation process, but on the effects of innovations, the neo-Schumpeterians attempt to fill the 'black box' left by Schumpeter to consider the process of innovation. Any innovative search activity cannot be separated

[3] Nelson and Winter (1982) first defined the innovation process in terms of dynamic efficiency.

from the environment of innovation. According to Schumpeter's analysis, not only innovative search process but also appropriate environmental conditions for this search matter. Recent analysis of economic development under evolutionary assumptions focuses on the close relationship between innovation search and environment for innovations. Evolutionary approaches are still less developed but show clear differences with the equilibrium approach to competition (Metcalfe, 1998). The fundamental difference lies in the displacement of equilibrium as the central conceptual framework. The evolutionary approach is concerning why technological competition is the driving force behind structural change and economic development.[4] The evolutionary approach has been used to explain how competitive advantages, as opposed to comparative advantages, explain successful development. These evolutionary approaches are more consistent with the economic reality in which competition relates to not only prices and costs but also to a wider set of technological, strategic and organisational aspects of firms, and economic welfare increases in response to not only price reductions but also to improvement in quality and product variety (Jorde and Teece, 1992).

3.2 Competition Policy: Objectives, Instruments and Implementation

Competition can be promoted or protected by introducing or reinforcing relevant domestic institutions, among which competition policy is arguably the central element. As argued in Section 2.1, competition is a critical 'finger' of the 'invisible hand' of the market. It has long been acknowledged as a major force bringing about economic development. However, it is recognised that freely functioning markets may 'fail' because of the anticompetitive practices of individual firms or groups of firms acting together and that, as a result, some correcting force is necessary to ensure that the benefits of competition are adequately achieved. The market failure that competition policy seeks to rectify is the situation where competition appears to be faltering as the result of the direct actions of a firm or a group of firms.

3.2.1 Objectives of Competition Policy

While many objectives have been ascribed to competition policy in various jurisdictions over the past hundred years, certain major themes stand out. The most common of the objectives cited is the maintenance and promotion of the process of free competition, or the protection or promotion of 'effective competition'. Effective competition is a market condition that exists when two or more firms, acting independently, contend for their business in a manner that ensures that the consumers will be offered the lowest price alternative or best technical design meeting its minimum needs. The concept of effective competition is not just concerned with the prices and costs – it relates also to the considerations of a broad range of factors such as the quality of products/services, the range of products/services that are available, efficiency, as well as incentives for innovation. One of the features of a market where there is effective competition is that no one firm would be able to change prices independently of the other firms. A firm cannot have a dominant position in a market at the same time as the market is considered to be effectively competitive.

[4] See Nelson and winter (1982) for a detailed discussion.

The maintenance and promotion of free competition are seen as synonymous with preventing or countering unreasonable restraints on competition. The primary objective of the maintenance and promotion of effective competition was to counter private restrictions on competition. However, in some specific countries, the role of competition policy has expanded significantly to include lessening the adverse effects of government intervention in the market. Linked to the promotion of competition, improving access and opening markets by reducing barriers to entry through deregulation, privatisation, tariff reduction, or removal of quotas and licenses are also specified as objectives of competition policy in some countries. Competition authorities do not have a direct mandate over commercial, regulatory and privatisation policies but can wield influence favouring market-determined solutions. In some countries, competition authorities can analyse whether regulatory measures from the public sector will negatively affect competition and strive to have any measures that unreasonably limit competition amended or abolished.

Other commonly expressed objectives of competition policy are the prevention of abuses of market dominance[5], the protection of consumers and the achievement of economic efficiency, which includes both allocative and dynamic efficiency through reduced production costs and technological change and innovation. Market dominance is the ability of a firm or group of firms to persistently hold the price above long-run average costs without thereby losing so many sales that the price level is unsustainable (Utton, 2003). The creation, exploitation and maintenance of market dominance are the main concern of antitrust laws and competition policies. Compared with the theoretical concept of monopoly in economics, the effects of which has been discussed in Section 3.1, market dominance is a more practical concept used in antitrust analysis. Great emphasis has thereby been put on the sources of market dominance. Hay and Vickers (1987) mentioned five factors that can lead to the acquisition of market dominance. Three of them, collusion, predatory practice and Merger and Acquisition (M&A) are directly amendable to control through competition policy. The others are government grant (in the form of licenses, patents, quotas and tariffs) and corporate advantages and efforts, the so-called 'skill, foresight and industry'.[6] Government grants and trade policy issues are the subject of policy controls but usually settled in a different arena rather than competition policy. Recognising the strategic interdependence of their decisions may lead firms in markets with a limited number of competitors to collude, allowing them to keep prices up and market shares stable. The European Commission has considered this as 'joint dominance'.[7]

The essence of market dominance is the ability to control the market in such a way that prices can persistently be raised above costs, leading to excessive profits; where this occurs the market will not allocate resource efficiently.[8] The task of competition policy can be viewed as an attempt to remove the sources of that market failure or to prevent its emergence. The welfare losses from market dominance that competition policy tries to rectify are likely to be substantial, while this does not mean that all competition policy actions are correct and effective. The neo-Chicago School claimed that dominant firms

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[5] The term 'market dominance' and 'market power' can be used interchangeably.

[6] Judge Learned Hand used the phrase 'skill, foresight and industry' in a famous US antirust case in the 1940s: the United States vs. Aluminum Company of America (Alcoa).

[7] The concept of joint dominance matches closely the concept of coordinated effects. It has been disputed for a long period of time whether the European Commission could have extended the concept of dominance to deal with a situation in which dominance was jointly held by two (or more) firms. The first case where the Commission used joint dominance was in Nestle/Perrier, in the French mineral water industry.

[8] See Utton (2003) for a detailed discussion.

arise because of economies of scale and some superiority (such as management and innovation) which gives them supremacy in the competition. The dominance reflects efficient causes, which justify whatever the monopoly effects may impose. The speed with which unregulated markets are self-correcting in the face of market dominance is a very important issue that is directly related to the necessity of competition policy and has been at the centre of antitrust discussions. Are sources of market dominance likely to be ephemeral or persistent? In the former case, the inefficiencies are quickly eroded by the forces of market competition and it may be better to withhold direct policy intervention. In the latter case, knowledge of the source of market dominance should act as a guide to the effective antitrust remedy. This is as what Easterbrook (1984) pointed out: the central purpose of antitrust is to speed up the arrival of the long run.

The central practical problem lies in the interpretation and measurement of market dominance. Assessing market dominance qualitatively is a difficult procedure, requiring sophisticated information and complicated analysis. Given the importance of potential competition, as well as actual competition, and differences about what is needed to ensure competition based on industry characteristics, ideally a qualitative approach to determining dominance is appropriate (World Bank, 2002). In the early years of US antitrust, however, many important cases took essentially the simple position that the larger the market share the greater the market power. The empirical analysis of market structure as a screening device for possible antitrust action was largely based on static measures such as concentration ratios. More recently there has been much greater concern for the dynamics of market structure (see Subsection 4.3 for a detailed discussion).

Since the mid-1970s, the interests of consumers in lower prices and improved products became the central concern of competition policy in the United States.[9] The US approach argued that ultimately the consumer interest should be paramount in competition policy and this can be best achieved by pursuing greater efficiency. Competition policy should not intervene as long as consumer interests are well served by efficient firms despite their size. However, competition policy should act in the case that large firms abuse their market dominance to exclude competitors in unreasonable manners. On the basis of the prevention of the abuse of market dominance, the promotion of economic efficiency and improvement of consumer welfare has been widely recognised as central aims of competition policy. Thus the objectives of competition policy reflect different perspectives towards one core belief, ensuring the effective functioning of competition mechanism to gain economic efficiency so to protect the consumer by the means of preventing unreasonable restraints on competition imposed by private firms (and also possibly from the adverse effects of government intervention).

If the objective of competition policy is seen primarily in terms of maintenance and promotion of the competitive process as simply put in the beginning of the subsection, this may also be interpreted as ensuring the continued presence of existing firms who want the freedom to act in a competitive manner, even though it may damage the consumer interests.

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[9] Beginning in the mid-1970s, the US antitrust authority embarked upon a Chicago School revolution as Robert Bork, along with other antitrust scholars from Chicago University, became federal appellate judges. Over the next two decades, one doctrinal area after another in US antitrust was transformed; among them one key issue was to harmonise the new economic focus on efficiency and entry with the pre-existing legal rules that relied on concentration (Baker, 2002). Since the rise of the Chicago School, the presumption of harm from the increased concentration has declined dramatically. Accordingly, the 1982 Merger Guidelines departed from the 1968 Guidelines by emphasising the analysis of a transaction's competitive effects rather than merely on market concentration.

By placing a greater emphasis on the competitive process rather than economic efficiency and consumer interests, competition authorities may give undue emphasis to the protection of competitors rather than to competition. Since the mid-1970s, a broad consensus has developed in the United States regarding the goal of US antitrust policy: to foster competitive markets and to control the abuse of market dominance, not to protect smaller firms from tough competition by larger ones. However, unless the competition authorities keep efficiency and consumer interest firmly in mind, they may serve the interests of weaker competitors, especially under the condition where a market is dominated by an efficient firm and complaint comes from smaller rivals.

In response to sociopolitical concerns various objectives of competition policy other than the promotion of economic efficiency and improvement of consumer welfare have been identified. These include integrating markets, protecting small businesses, preserving the free enterprise system and promoting economic development. In addition, it has been argued that competition policy must recognise the effects that the business practices such as M&As may have on employment and regional development. All these economic concerns are far beyond the traditional focus of competition policy on allocative efficiency. Furthermore, some non-economic objectives, such as maintaining equity, fairness and honesty, have been ascribed to competition policy. The World Trade Organisation (WTO) (1999), for instance, listed the objectives of competition policy, which include: 1) the promotion of equity and fairness, 2) the promotion of opportunities for small and medium-sized business, 3) market integration, 4) the promotion of technological development, local production and employment, and 5) the protection of economic and political pluralism.

With regard to the objectives of competition, a spectrum of views has been expressed. The two ends of the spectrum can be described in terms of economic and non-economic objectives. At one end is the view that the sole purpose of competition policy is to maximise economic efficiency. In this view, there is no room for sociopolitical criteria such as fairness and equity in the implementation of competition policy. The opposite view is that competition policy is based on multiple values that are neither easily quantified nor summarised to a single economic objective. In this view, some sociopolitical criteria such as fairness and equity are incorporated into the objectives of competition policy. Associated objective are freedom of trade, freedom of choice and access to markets. A systematic summary of the objectives of competition policy is demonstrated in Table 3-1. While the changing emphasis on various objectives and the pressure to increase the number of goals has been notable, the focus of competition policy has been increasingly economic efficiency in the industrialised countries.

Table 3-1 Objectives of competition policy

General Objectives Maintenance and promotion of competitive process Prevent business practices that restrain competition (in order to maintain competitive process) Improving access and opening markets (in order to promote competitive process) Examples: 'For over six decades, the mission of the Antitrust Division has been to promote and protect the competitive process – and the American economy – through the enforcement of the antitrust laws' – Antitrust Division, US Department of Justice (DOJ) 'The Commission seeks to ensure that the nation's markets function competitively, and are vigorous, efficient, and free of undue restrictions.' – Federal Trade Commission (FTC), the United States	
Economic Objectives Efficiency related economic objectives – Static: low prices (economic welfare) – Dynamic: technological change and innovation (long-run economic welfare) Economic Development Other economic objectives – Protecting small business – Maintaining employment – Market integration ↓ **Effective competition**	Non-economic Objectives Equity Social welfare Fairness (fair competition) Freedom (of trade, choice and action) Pluralism (political as well as economic) ↓ **Fair competition**

3.2.2 Targets and Instruments of Competition Policy

The essential core of competition legislation is to counter private restrictions on competition. However, there is disagreement over what constitutes private restrains to competition. Three widely accepted principal targets of modern competition policy include: 1) agreements among firms, 2) the abuse of a dominant position (monopolisation), and 3) mergers among firms. The first area covers the relationships and agreements between otherwise independent firms; the second area refers to the actions by a single firm; while the third area concerns structural combinations of independent firms. The second and first aspects concern the single-firm monopoly and joint action by a group of firms respectively, while the third aspect prevents the creation of a monopoly. Related policy instruments have been developed to curb the anticompetitive effects of these practices. The central concern of competition policy is related to all issues raised by market dominance, whether this comes from a single firm or a group of firms acting overtly or covertly together. The issues and targets involved in competition policy are complex. To make sense of the complexity, Table 3-2 categorises the major targets of competition policy, distinguishing horizontal from vertical issues.

Table 3-2 Major targets of competition policy

Target of competition policy	*Horizontal Issue*	*Vertical Issue*
Agreements among firms	Horizontal agreements	Vertical agreements
Abuse of a dominant position	Price discrimination Predatory pricing Strategic behaviour	Vertical restraints – Resale price maintenance – Selective distribution systems – Tying arrangements – Exclusive dealing – Refusal to sell
Mergers among firms	Horizontal mergers	Vertical mergers

Agreements among competitors are implicit or explicit agreements that restrict competitors' ability to act independently. The term of agreements encompasses a broad range of conduct, from joint ventures, joint advertising or marketing and trade association activities, to price-fixing, bid rigging and allocation of markets, sales and customers. There is a prominent distinction between horizontal agreement and vertical agreements. The former are the agreements among firms at the same level of the production chain; the latter are agreements among enterprises at different levels of production chain. Not all agreements between competitors hurt competition. Competition authorities distinguish between agreements that reduce competition on balance and those that promote competition on balance or are at least competitively neutral.

Certain horizontal agreements to restrict the terms of trading (price, output, rebates, discounts, and so on) are anticompetitive. These agreements are intended to eliminate competition among firms and do not involve integration of operations, creation of a new product or method of distribution, or any other joint effort intended to further competition. Such agreements are overt restraints of trade, are often referred to as cartel agreements, or collusions. Examples are pricing-fixing, bid rigging, the allocation of territories or customers, and boycotts or refusals to deal in support of these practices. These agreements have no economic or social benefit and are unequivocally harmful. They have received the greatest degree of unanimity of treatment by the antitrust authorities. Most countries view cartel agreement as the most serious competition offences; in some countries cartel agreements are *per se* illegal and prosecuted as crimes. Most economists and practitioners of competition policy strongly condemn price-fixing and similar forms of cartel agreements, which are referred to as hard-core cartels. Vertical agreements can have desirable effects, uncertain effects or undesirable effects. The vertical agreements that are restrictive raise the antitrust concern. Regardless of the specific form taken by a vertical agreement, it is crucial to treat particular upstream and downstream firms as a single vertical structure. Vertical agreements are most likely to be harmful when at least one of the transacting parties is dominant in either the upstream or downstream market. However, even restrictive vertical agreements that involved dominant firms can result in efficiency gains. This requires caution in dealing with such cases so that efficient market developments are not impeded.

Certain restrictive business practices, such as price discrimination, predatory pricing and vertical restraints, can be qualified as the abuse of a dominant position. Price discrimination is the sale of two or more similar goods at prices that are in different ratios to marginal cost (Stigler, 1968). A firm with a degree of market dominance may be able to discriminate on price. Although economic analysis gives an ambiguous view of the

possible effects of price discrimination[10], competition policies in both the United States and the European Union have considerable scope for the examination and the possible control of price discrimination. A particular form of price discrimination is predatory pricing, which refers to a deliberate conduct, usually by a dominant firm, to cut prices to a very low level in the short run in order to drive competitors out of the market or deter a potential rival. Despite the ongoing debate on the effects of predatory pricing, the competition authorities in the United States and the European Union have spent a great deal of resources on the cases of predatory pricing. The issue of predatory pricing has been broadened to cover strategic behaviour, which involves other variables apart from price. The strategic behaviour by dominant firms aims to deter potential entrants rather than to destroy actual competitors. Although the research in strategic behaviour has influenced the US antitrust practice[11], it has not been convincing that the pre-commitment of resources and the strategic behaviour of dominant firms have been sufficient to constitute monopolisation of an industry. Vertical restrictions occur when a firm at one stage of the line of value-added activity imposes restraints on the terms of trading by firms at another stage – vertical restrictions take place between firms in a vertical relationship, usually manufacturers and distributors. A complex variety of vertical restraints/agreements includes resale price maintenance, selective distribution systems, tying arrangements (tie-in sales), exclusive dealing and refusal to sell.

Alleged abuses of a dominant position can also promote efficiency in which possible anticompetitive harm is weighted against possible efficiency benefits. Much of the economic analysis in this area is equivocal. The ambiguity and complexity of different cases suggests that a rule of reason rather than a general hostile stance in the implementation of competition policy in this area will produce more efficient results. In an investigation of an alleged abuse case, competition authority should explain how the alleged exclusionary practices might harm competition and explore possible efficiency benefits from the practice.

Most M&As impose no threat to competition. However, some M&As would severely harm competition by significantly increasing the probability of abusing market dominance. These are the transactions that the competition authority seeks to identify and prevent. Mergers can be identified as horizontal, vertical and conglomerate. A horizontal merger involves the acquisition of or merger with an actual or possible competitor. A vertical merger involves the acquisition of or merger with a supplier of an input or a customer. A conglomerate merger refers to a merger between firms operating in different markets that

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[10] Theoretically there are three categories of price discrimination: the first degree refers to the case where the seller has complete knowledge of the reservation prices of customers; the first degree refers to the case where the seller has incomplete information of the reservation prices of customers; third degree price discrimination refers to the case where the seller can isolate customers either geographically or by end use. According to the conventional view, the first and second degrees of price discrimination should not be a target for antitrust action because, compared with the available alternatives, it actually improves economic welfare (Utton, 2003). However, a fundamental change in market structure may make possible more favourable alternative. Third degree discrimination may have rather ambiguous effects. Due to the potential welfare gains that can rise from al three types of price discrimination, on the one hand, and the distinction between persistent and systematic price discrimination, on the other, most economists take an agnostic or even positive view of the effects of price discrimination.

[11] The preemptive strategies include: 1) accelerating R&D expenditures in order to acquire ‘preemptive patents’ as argued by Gilbert (1981) and Gilbert and Newbery (1982); 2) brand proliferation and excessive advertising for incumbent firms to attempt to protect their position (Schmalensee, 1978; Hilke and Nelson, 1984). For more detailed discussions, see Porter (1980, 1985) and Salop (1981).

do not have a vertical relationship. When examining horizontal or vertical M&As, competition authorities seek to prevent the creation, preservation or enhancement of market dominance. The horizontal M&As between sizable firms operating in the same market are likely to have the most direct impact on market power. The vertical M&As between firms operating at different stages in the production process may also have consequences on market power. The effects of conglomerate M&As have been intensively disputed in the past but are now generally regarded as having little or no market-power impact (Utton, 2003). Competition authorities may be concerned about horizontal M&As when a firm combines with an existing competitor or a firm that is likely to enter the market in the near future under circumstances suggesting that competition in the market may be diminished. They may be concerned also about vertical M&As when such a merger makes it more difficult for competitors to enter the market, when, for example, the merger would cause the competitors to experience difficulty in gaining access to needed inputs or distribution channels. For competition authorities, the primal priority of merger control is to prevent firms that already dominate their markets from making anticompetitive acquisitions of or combinations with competitors and to inhibit M&As that create market dominance that did not exist before the merger.

Compared with the *per se* approach to collusion, for competition authorities, the position with horizontal merger is much more ambiguous. The competition authorities will not intervene in case that a horizontal merger, while increasing the market share of the new entity, may have a negligible effect on market power. If a merger may simultaneously enhance market power and promote technical efficiency, the competition authorities have to decide whether the merger should be blocked, principally based on the trade-off between the probable increase in market power and the prospective efficiency improvement. Thus merger policy is more complex than other major areas of competition policy because its decision is based on projection rather than past events.

Competition advocacy encompasses all activities of the competition authority that do not fall under the three main enforcement categories of competition policy. Competition advocacy has recently been accepted as an important function for all antitrust authorities. It complements law enforcement activities, assists in public education and helps to promote economic development. Competition advocacy refers to those activities conducted by the competition authority related to the promotion of a competitive environment for economic activities by means of non-enforcement mechanism, mainly through its relations with other government entities and by increasing public awareness of the benefits of competition (International Competition Network, 2002). These activities are targeted on other public authorities in charge of regulation or policy-making with the aim of curing anticompetitive effects of regulatory intervention and the society (the judicial system, other government entities, economic agents and the public at large) with the aim of raising public awareness of importance of competition.

3.2.3 Implementation of Competition Policy

Although a striking diversity of competition policy regimes exists around the world, a competition policy regime usually addresses four fundamental functions: 1) initiates proceedings; 2) undertakes investigations; 3) adjudicates contested competition proceedings; 4) judicial review of competition decisions. A competition policy regime consists of both substantial legal rules and an enforcement system. A competition law, which specifies legal rules and judicial process designed to maintain or protect competition and to control abuses of market dominance by firms, is the core of a competition policy

regime.

Competition policy incorporates both legal and economic principles and both disciplines play complementary roles. In the very beginning of antitrust legislation, economists were largely bystanders as legal and political events coalesced to produce the first antitrust law (Stigler, 1982; McChesney, 1995). Gradually, economics has influenced the principle as well as the implementation of the antitrust law. Economic theory and concepts of industrial organisation have had continuous influence on competition law and guided the formation of competition policy, informing the debate about the relative merits of competition by indicating the costs of measures that suppress it. For competition authorities, economic tools can be used to assess the effects of various business practices, to analyse market structure and to predict the consequences of enforcement decisions. Now, economic analysis plays a vital role in determining what case the competition authorities actually pursue. Courts, on the other hand, have endorsed a central role for economics in rendering their own decision. Economics frames the central issues for investigation and, on the basis of data analysis and theory, structures the examination of various practices of firms or structural changes in industries (Kwoka and White, 1999).

As to the debates on the interaction between law and economics in the area of competition policy enforcement, there is an inherent tension between the need for a clear set of legal rules to foster certainty in the application of competition policy and the need to consider specific situations. Precise legal rules cannot be formulated across all types of actual or potential anticompetitive situations. An outright prohibition or a *per se* approach may well be adopted against hard-core cartel agreements, while a rule-of-reason approach that evaluates facts on a case-by-case basis is likely to be more appropriate in certain types of some business practices such as abuses of a dominant position and M&As. In the latter case, competition agents balance the competitive benefits and costs of a particular agreement, seeking to determine whether the agreement is 'unreasonable' and therefore illegal. As suggested in Subsection 3.2.1, economic efficiency has become the central concern in most competition investigations. Under certain conditions, however, improvement in one type of efficiency may come at the expense of other types – by curbing market dominance to improve allocative efficiency, competition authorities for instance may hinder dynamic, or technical, efficiency. Thus the task of competition policy can be summarised as 'the effort to improve allocative efficiency without impairing productive efficiency so greatly as to produce either no gains or a net loss in consumer welfare' (Bork, 1978). In such cases complex trade-offs are likely to be involved, posing difficult problems for the policy maker. Increasing attention has been devoted to dynamic efficiencies and, consequently, resulted in the tensions between settled concerns about price and cost and new concerns about promoting innovation and maintaining market access.

Competition laws specify legal rules and judicial processes to fulfil the objectives of competition policy. Despite their similar general objects, a striking diversity of antitrust provisions exists around the world. The two dominant systems of competition policy, which have been transplanted to many developing countries, are the systems of the United States and of the European Union. The main laws that have defined US antitrust policy are Sherman Act, Clayton Act, Federal Trade Commission Act, Robinson-Patman Act, Celler-Kefauver Act and Antitrust Enforcement Improvement Act.[12] The cornerstones of

[12] The Sherman Act first provides antitrust provisions in the United States – Section 1 deals with collusion and Section 2 covers monopolisation, or market dominance. Section 2 gives a wide scope of possible abuses by a

EU competition policy are Articles 81 and 82 of the EC Treaty. The treaty, which embodies the constitution and basic principles for the development of the European Union, contains these two articles that specifically tackle competition issues. Previously, Articles 85 and 86 of the Treaty of Rome were concerned with competition policy. However, after the ratification of the Treaty of Amsterdam, these Articles were renumbered Article 81 and 82, respectively, in May 1999.[13] The Rome Treaty contained no specific provisions on M&As. Mergers have traditionally been regulated by Article 82 and Regulation No. 4064/89, 'European Council Merger Regulation (ECMR), the Control of Concentration', which covers mergers, acquisitions and joint ventures. The ECMR was passed in 1990 and subsequently amended by Council Regulation 13/10/97, which has been in force since March 1998. This regulation stipulates that a 'concentration' with a Community dimension 'which creates or strengthens a dominant position as result of which effective competition in the common market or in a substantial part of it is significantly impeded' is to be declared incompatible with the common market. The European Commission replaced the Regulation 4064/89 with a new regulation in May 2004. At present there remain remarkable differences between the US and EU competition laws with respect to the treatment of some issues in competition policy, such as predatory pricing and merger control. The major difference between US and EU antitrust enforcement is in the levels and nature of enforcement (Graham and Richardson, 1997). Generally speaking, American antitrust law has been influenced by a more penetrating use of economic theory, whereas the influence of economics on European competition law has remained relatively modest. Compared to American antitrust law, European competition law still is less consistent with an efficiency-based approach.

In addition to differences in competition laws, differences in enforcement determine the ways in which countries treat competition. Because of diversified institutional arrangements to undertake the four fundamental functions of competition policy, various models of competition policy exist. In the organisation of administrative enforcement, for instance, the frameworks of competition policy can be classified bifurcated or integrated model. Under the bifurcated model, separate bodies are responsible for investigation and adjudication of cases. Under the integrated model, investigation and adjudication falls within the purview of one administrative body. The adjudication function can be undertaken by the court or by the government agency that investigate the antitrust cases. Thus the type of administrative apparatus that governs competition policy differs widely across countries. In the United States, the enforcement of competition policy is carried out either by the Antitrust Division within the US Department of Justice (DOJ) or by the Federal Trade Commission (FTC). It is also possible for private parties who have suffered

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dominant firm. As with Section 1, violation constitutes a criminal offence. The antitrust provisions were extended in 1914 by the enactment of the Clayton Act and the Federal Trade Commission Act. The main effect of the Federal Trade Commission Act was to establish the FTC. The Clayton Act specifies four specific kinds of restrictive practices: 1) price discrimination; 2) exclusive dealing and tying contracts; 3) acquisition of competing companies; and 4) interlocking directorates. Price discrimination was modified by the Robinson-Patman Act in 1936. The Celler-Kefauver Act was passed in 1950 to amend Section 7 of the Clayton Act and thereby to cover certain asset acquisitions and acquisitions involving firms that were not direct competitors.

[13] Article 81 is aimed mainly at agreements between firms that have as their object or effect the 'prevention, restriction or distortion of competition within the common market'. Article 82 covers a number of practices that may constitute an abuse of a dominant position within the Community. These practices include: 1) the imposition of unfair prices and other trading practices; 2) the limitation of production, markets or technical development; 3) the application of dissimilar terms to similar conditions in order to place some trading parties at a competitive disadvantage; 4) the inclusion of supplementary terms which have no bearing on the main substance of a contract.

as a result of anticompetitive practices to bring prosecutions for violations of antitrust laws. The Antitrust Division's traditional role was that of prosecutor rather than adjudication. Cases under the Sherman Act are brought by the Antitrust Division before a Federal District Court and an appeal against a decision may be brought to the Supreme Court. In contrast, the FTC is an independent body charged with providing economic analysis of various competition issues along with conducting formal investigations and prosecutions. It is an administrative agency with quasi-judicial powers which can conduct hearings into suspected violations of the law and its jurisdiction is purely civil. According to the Section 5 of the Federal Trade Commission Act, all 'unfair methods of competition' were illegal and it was up to the FTC to decide what exactly these were. In the European Union, competition policy is enforced by the European Commission. The Commission has the mandate to determine whether an agreement infringes Article 81. Different from the US system, the EU competition policy has developed a notification procedure – firms participating in an agreement which may infringe Article 81 could be considered for exemption and be exempt from fines by notifying the Commission about the provisions of the agreement.[14] The commission also has the authority under Article 82 to investigate firms that may abuse their dominant positions. Firms found guilty of an offence under Article 81 and 82 can be heavily fined by the Commission. Since the promulgation of the ECMR in 1990, the Commission has had exclusive authority to investigate proposed large M&As above a threshold.[15] All decisions by the Commission concerning collusion, abuses and mergers can be examined on appeal by the Court of First Instance and further by the Court of Justice Instance.

The effectiveness of competition laws and competition authorities in protecting competition varies substantially around the world. Results of the survey conducted for the World Bank (2002) indicated that the higher the per capita income of the country, the more effective is the competition law. Also, the longer the competition authority has been in place, the more effective it tends to be. The average tenure of competition authorities in developed countries in the survey is 27 years, while that for developing countries is 10 years. On average, competition authorities in developed countries are more effective than competition authorities in developing countries, according to the World Competitiveness Yearbook (2000) index of effectiveness of competition law, which is based on surveys of top and middle management of firms in each country.[16] But several other factors are crucial to the effectiveness of competition policy. First, competition agencies need to have sufficient legal enforcement powers so that the agency can make decisions on competition cases without referring the simpler ones to the courts. Secondly, competition agencies need the statutory authority to force firms to supply necessary information. Thirdly, the independence of the competition authority is necessary for competition policy enforcement. Fourthly, competition authorities need adequate budgets and staff to perform their functions. Finally, private enforcement is supplementary for public enforcement.

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[14] In 2000, the European Commission planned to end the notification system in order to free administrative resources.

[15] According to the ECMR, the large mergers involve firms with a combined worldwide turnover of at least € 5 billion, as long as the total EU turnover of each firm is greater than € 250 million, and as long as no firm involved does more than two-thirds of its EU business in one member country. All other mergers will stay in the national jurisdiction of individual member countries.

[16] This index is based on the responses of 3,678 executives to the survey question on the degree to which 'competition laws prevent unfair competition in your country.'

3.3 Competition and Development: Exploring the Rationale of Competition Policy for Developing Countries

The ways in which and the extent to which competition is perceived to work and contribute to development differ widely among economists, public officials and business people. In dealing with development, we focus on the economic facet of it, though development encompasses other dimensions such as social, political and environmental. For developing countries, long-term economic development is the central concern when considering institution building or making economic policies. There is one central question in the study of economic development: why are some countries developed and others not? How living standards in the population are determined, how they changed over time and how government policy can be used in the influence of these processes. The study of the process of economic growth is central to the development economics. The relation between competition and economic growth highlights the theoretical rationale of competition policy for developing countries. For developing countries prepared to introduce competition policy, there is a common question: is competition policy a good instrument for economic development. To what extent is the focus of competition policy on allocative efficiency and consumer welfare consistent with the goal of development? Should competition be encouraged in developing countries? To address these questions, insights should be provided to a related question, namely, the relation between competition and development. Is competition a good thing *per se* to foster economic development?

It has been recognised that under a wide variety of circumstances, competition has beneficial effects on economic performance and social welfare. There has been a sound theoretical basis to assume such positive impact, but there have also been ample theoretical arguments underpinning potentially negative effects (see Table 3-3 for an overview). For instance, Chamberlin's 'excess capacity theorem' has provided theoretical support for the concept of 'wasteful competition'. There have also been arguments on 'excessive competition', both in the old version of the late 19th century as well as in new versions documented in the recent theoretical industrial organisation literature. In addition, the theory of contestable markets has suggested that the actual effect of the (likely) absence of competition may be positive considering the role played by potential entry.[17] Furthermore, competition may not lead to optimal results under the condition of natural monopoly and it is not competition policy but regulation that should be adopted under this circumstance.[18] Similarly, the evidence provided by empirical studies on the relationship between competition and economic performance has been far from conclusive. To shed lights on both the theoretical underpinning and the empirical evidence of the interrelationship among competition, competition policy and economic development, we address this issue from different perspectives in the following subsections. Both static and dynamic views of competition have been taken and the behavioural approach is addressed in Subsection 3.3.2. The empirical evidence of the effects of competition policy on competition and, therefore, on development has been rare. It is, methodologically, extremely hard to separate the impact of competition policy from other factors that influence the degree of market competition. In addition, an appropriate measure of the strength of competition policy is

[17] Stiglitz (1994), however, criticised the theory of contestable market for its underscoring the importance of entry barriers that make the threat of potential entry incredible. In the same book, Stiglitz argued strongly in favour of competition policy as a policy instrument to reduce the welfare loss caused by the lack of competition.

[18] In 'natural monopolistic industries', the absence of competition is rationalised by the existence of large fixed costs in the network, whose duplication may be neither privately nor socially desirable.

still lacking.

Table 3-3 Competition, competition policy and development: a summary of the interrelationship

Relationship	*Theoretical underpinning: Positive effect*	*Theoretical underpinning: Negative effect*	*Empirical evidence*
Competition – Development	Static efficiency – Allocative efficiency – X-efficiency Dynamic efficiency Incentive mechanism argument	Theory of contestable markets Excess capacity theorem – Wasteful competition Excessive competition theory Natural monopoly argument	There has been a vast body of literature on the relationship between competition and a variety of indicators of economic development. The FDI-competition-development nexus remain largely uncovered due to the lack of the industry-level evidence.
Competition policy – Competition	The rationale of competition policy has been generally based on the theories underpinning the positive/negative effects of competition/monopoly. Whether competition policy leads to competition and therefore development, as assumed, is mainly a practically issue, which concerns the effectiveness of competition policy.		There have been litter empirical studies due to the methodological constraints and the lack of an appropriate measure of the strength of competition policy.

3.3.1 Competition and Economic Efficiency

The association between competition and economic efficiency goes back as far as Adam Smith's 'invisible hand' metaphor. In the dominant paradigm of neoclassic economics, economic efficiency is coherent with economic development. As a mechanism of virtue selection, competition encourages efficiency by allowing the most efficient firms to survive and grow at the expense of their inefficient counterparts. The exit of these efficient firms frees up resources, which can then be used by more efficient firms. Focusing on the basic condition of competition, Stigler (1987) argued that the central element of market competition is the freedom of traders to use their resources where they choose and to exchange them at a price they choose.

In terms of firm behaviour, competition is multidimensional and can have desirable effects not only on Ricardian short-term allocative efficiency, but also on Schumpeterian long-term dynamic efficiency. Dynamic efficiency refers to technological improvement that leads to increase in the efficiency and welfare of the economy. The effects of competition on growth and development are not only in the short run but also in the long run. In the short run, competition is necessary to ensure that allocative efficiency is achieved and consumer welfare is maximised. These basic functions of competition are static and they are complemented by some dynamic functions: competition is the driving force behind the technological progress and long-term economic growth. Thus well-functioning competition is crucial to long-term economic development. The dynamic efficiency is effectively promoted by a combination of cooperation and competition among firms. Dynamic efficiency has been related to the intensity of competition by two influential views. The first, generally referred to as the Schumpeterian hypothesis, argued that firms must make high level of profits and enjoy some monopoly power in order to invest the funds necessary for successful innovation (Kamien and Schwartz, 1971). The second view argued that competition leads to increased incentive for firm to gain a competitive advantage (see later subsections for a detailed discussion) – one way of doing this is to invest in research and development projects (Nickell, 1996). On the other hand, it is argued that Schumpeterian dynamic efficiency 'cannot be obtained by totally ignoring Ricardian competitive advantages' (Yoshitomi, 1991). Thus the existence of cooperation

between firms should not hamper competition – as the basic mechanism of market, competition is the precondition of short-term allocative efficiency as well as long-term economic growth.

A distinction between monopoly and competitive market structure has long been recognised, stretching back as far as Aristotle. As the basic instrument of static, partial equilibrium analysis, the model of perfect competition highlights the ability of competition to achieve an equilibrium allocation of resource that is Pareto optimal under an extremely decentralised market structure – a 'perfectly competitive' market. The competitive equilibrium has desirable efficiency properties – perfect competition will lead to economic efficient in the traditional Pareto sense in which resources are so allocated that no one can be made better off without someone else being made worse off.[19] The desirable properties are in part due to free entry and exit of firms. The role of entry and exit in assuring the equalisation of returns across markets is not logically limited to the case of extremely decentralised market structure, the case in which it is technological feasible for a market to host a very large number of firms. The theory of contestable markets developed by Baumol *et al.* (1982a) extends the neoclassical partial equilibrium theory of a long-run competitive equilibrium to the case of increasing returns to scale. This theory suggests that an industry consisting of one or a few firms may be efficient by emphasising the role played by potential entry. When firm are in a protected market, incentives to achieve minimum cost may be blunted and a considerable amount of slack may exist at all levels of the organisation. The term 'X-inefficiency' is used to describe this kind of internal disorganisation.[20] If competitive pressures can be intensified, X-inefficiency will tend to disappear.

To the neoclassical economists, a monopoly, which can be simply defined as 'absence of competition'[21], is the polar opposite to perfect competition. Monopolies have been under fierce attack since the classical economists. The neoclassical approach to monopoly involves the comparison of monopoly with perfect competition. The most influential study has been that of Harberger (1954) who provided the core of the economists' case against monopoly – the price-cost divergence, as well as the resource misallocation and the resulting deadweight welfare loss.[22] In the view of neoclassical economists, a monopolist in economic theory is the sole producer of a good or service for which there are no close substitutes. Some entry barriers also exist which prevents other firms from entering the market and competing with the incumbent. Under these circumstances the firm can choose the output and price that maximises profit. The monopolist's pricing behaviour leads to allocative inefficiency.[23] A simple diagram in Figure 3-1 depicts the costs of monopoly. We assume that costs remain constant over the entire output range. Given the market

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[19] For the general equilibrium analysis, competition is also a basic assumption for the efficient allocation of resources. The First Fundamental Theorem of welfare economics claims that: 1) if there are enough markets, 2) if all consumers and producers behave competitively, and 3) if equilibrium exists, then the allocation of resources in that equilibrium will be Pareto optimal (Arrow, 1951; Debreu, 1959).

[20] Leibenstein (1966) first introduced the term 'X-efficiency'.

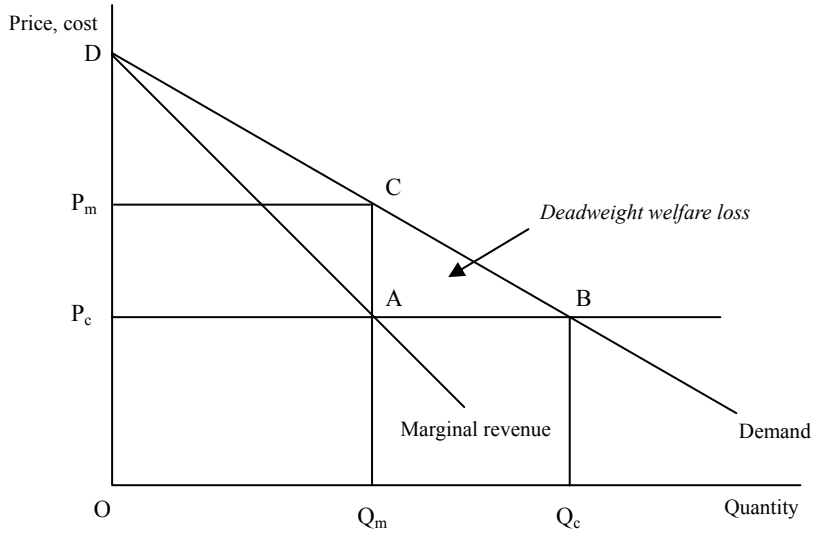
[21] Irving Fisher (1923) defined monopoly as 'absence of competition'.

[22] In the same study, however, Harberger estimated that the welfare loss from the existence of monopoly in the United States was virtually non-existent – a merely 0.07 percent. Some economists have challenged Harberger's estimates. Scherer, for instance, estimated that monopoly has imposed social costs equivalent to about 6 percent of the gross national product.

[23] However, the monopolist may be technologically efficient and in the long-run equilibrium the industry will also be efficient in this sense (Utton, 2003).

demand, then under competitive conditions the price is OP_c and the output is OQ_c. Consumer surplus, P_cBD, is maximised. In case that a monopolist controls the industry, price will be increased to OP_m and output will be decreased to OQ_m as the firm equalises marginal cost with marginal revenue. It is clear that at output level OQ_m there is a difference CA between price and marginal cost. Under the monopolistic condition the area P_cACP_m becomes the monopoly profit and the consumer surplus shrinks to P_mCD. In principle consumers would like to pay the monopolist a sum equal to the area P_cACP_m in exchange for an increase in output to OQ_c. The net welfare loss is the triangle ABC, the so-called 'deadweight' welfare loss. The diagram simply illustrates how output restriction leads to the price-cost divergence and the consequential resource misallocation. The redistribution of value P_cACP_m in favour of the monopolist is fundamentally caused by the monopolist's ability to hold price above long-run average costs – the market dominance.

Figure 3-1 Welfare losses from monopoly (market dominance)



In addition, the protection of the monopoly may lead to 'X-inefficiency'.[24] The stronger the protection for a monopoly, the weaker are its incentives for X-efficiency. The reduction of monopoly by removing entry barriers can have the effects of improving both allocative and X-efficiency (Utton, 2003). Furthermore, as argued by Stiglitz (1996), the welfare loss from reduced competition can be much larger than that Harberger (1954) suggested due to the rent-seeking behaviour by monopolists. The analysis of monopoly has provided the initial economic underpinning of competition policy. The putative need to address actions that reduce competition and result in monopoly is reflected in the first two sections of the pillar of US antitrust policy – the 1890 Sherman Act. Section 1 prohibits the 'restraints of trade' (cartel agreements) and Section 2 proscribes 'monopolisation', a term describing actions by which a firm becomes a monopoly through 'unfair' competitive

[24] In response, Leibenstein pointed out that Harberger based his estimates on aggregate measures, so that could not capture a great deal of inefficiency which he termed as 'X-inefficiency'.

practices.

The dichotomy between monopoly and competitive market structure is far too simple. There is a much wider spectrum of market structure in between. Against the theoretical standard of perfect competition, Edward Chamberlin and Joan Robinson renewed economists' interest in imperfectly or monopolistically competitive process in the 1930s (Chamberlin, 1933; Robinson, 1933). The analysis of Cournot oligopoly has provided additional economic underpinning of competition policy. The Cournot oligopoly theory supports another pillar of US antitrust policy – the 1994 Clayton Act. Section 7 of this act prohibits mergers that 'may tend to inhibit competition'. Historically, the models of imperfect competition emerged after the rise of the modern industrial enterprises around the turn of the 19th and the 20th Century (cf. Chandler, 1977). In the circumstance in which large firms dominate industries, the positive and normative implications of models of imperfect competition are of interest, as are the design of government policies such as competition and regulatory policies aimed at improving efficiency of markets. In contrast to the model of perfect competition, the models of imperfect competition are uncertain about whether the force of competition is entirely beneficial. The notion that competition can be wasteful was popularised by Edward Chamberlin. Under the condition of imperfect competition, firms face down-sloping demand curves or upward-sloping supply curves for some products. This is different from the perfect competition, in which firms face perfectly elastic demand and supply curves for all products. Chamberlin's 'excess capacity theorem' has provided theoretical support for the 'wasteful competition'. The theoretical argument of 'excessive competition' has presented additional challenge for the widespread belief that the more competition there is, the better the economy will function. Also known as destructive or cut-throat competition, excessive competition refers to situations when competition results in prices that cannot cover the costs of production, particularly fixed costs. Although insufficient competition is harmful to an economy, excessive competition may be ruinous. The literature on excessive entry has provided an additional dimension for the excessive competition argument. Recent studies in theoretical industrial organisation has demonstrated that there are cases where social welfare will be increased by strengthening, rather than weakening, the protection of incumbent firms from the threat of potential entry.[25]

A number of studies have found a positive relationship between competition and productivity as well as between competition and the rate of productivity growth (Geroski, 1990a; Porter, 1990; Baily and Gersbach, 1995; Nickell, 1996, 1997). Productivity growth, in turn, accounts for most of the income and growth differences across countries (Easterly and Levine, 2000). In developed countries, productivity growth is generally the result of technological advances. In developing countries, productivity growth has mostly been attained through technology spillovers from trade, Foreign Direct Investment (FDI) and licensing. Market competition increases productive efficiency by providing incentives for managers to cut costs, reduce slack, innovate, and improve institutional arrangements in production (Vickers, 1995; Nickell, 1996). In the presence of competition, firms adjust their operations to raise efficiency and less efficient firms exit the industry. The mechanism of entry and exit has been argued to be an important source of industry wide productivity growth (World Bank, 2002). In a study of South Korea between 1990 and 1998, plant exit and entry accounted for as much as 45 percent of manufacturing productivity growth during cyclical upturns and 65 percent during downturns (Hahn, 2000). Porter (1990) has

[25] See Stiglitz (1981), Mankiw and Whinston (1986), Suzumura and Kiyono (1987) and Suzumura (1995).

observed that the sectors with strong domestic – even local – competition have produced the most successful companies in worldwide markets. None of these studies make a difference between foreign and domestic companies, which according to Dunning presents a vital flaw in their reasoning. We will come back to this issue in Chapter 4.

3.3.2 Determining Firm Behaviour: Competition as an Incentive Mechanism

Some recent literature on the relationship between competition and development has emphasised the impact of competition on firm behaviour and, consequently, on economic development. In this view, an important role of competition is to act as a disciplining device, inducing the firm to behave in a better way. The separation of ownership and control is a common feature of the typical governance of modern enterprises. This separation leads to divergence between the owners of a firm, who would aim to maximise profits, and the managers that operate the firm, who may pursue distinct incentives. In addition to incentive divergence, information asymmetry often arises between the owners and the managers. Agency problems, such as the moral hazards and managerial slacks, may surface. When agency problems exist, profit maximisation needs not to be the most appropriate assumption for economic analysis. Instead, the behavioural assumptions that take account of those agency problems may be a more realistic and thus practical approach. Facing agency problems, firms have to take initiatives to develop best practices in corporate governance to cope with the internal agency problem and realise its business objectives. Competition can provide an effective external disciplining mechanism.

Competition can act as an incentive mechanism to solve the agency problem; the impact of competition on development thus also depends on the degree to which agency problems exist in a country. Aghion *et al.* (1995) suggested that the impact of competition on economic development critically depends on the behaviour of firms. Rather than considering firm behaviour as exogenously given, Aghion *et al.* (1997) endogenised the behaviour by explicitly modelling the agency problem between the manager and the owner and demonstrated that, depending on the magnitude of this agency problem, firms behave in ways that are close to profit maximisation or adopt much more conservative behaviour. Controlling for the magnitude of agency problems, it was verified that competition plays an important and positive role as a disciplining device when agency problems are important. This could for instance apply to the problem of 'corruption' and 'bad governance'. There is a significant relationship between corruption and development: the lower the development level of a country, the higher its corruption (cf. the Transparency International). The direction of causation is not yet established. But it is clear that effective competition is bound to reduce the possibilities of corruption, which always is related to market failure and collusion.

The impact of competition on incentives and on the level of managerial effort has been studied recently. According to Rey (1998), competition may help align owners' and managers' objectives through a number of channels or mechanisms. Managers of modern enterprises have access to more information than the owners. In addition, they make the day-to-day business decisions that have direct effects on a company's performance. The interest difference between owners and managers requests owners effectively supervise and evaluate the management team – oversee the managerial operation and to reward the managers according to their managerial efforts (Alchian and Demsetz, 1972). Competition makes the comparison and evaluation possible. Owners of a firm can compare the performance of their firm with that of its competitors and evaluate and reward managers accordingly. This idea of benchmarking has been formally analysed by Holmstrom (1982),

Nalebuff and Stiglitz (1983) and Mookherjee (1984), who pointed out that compensation schemes can provide sharper incentives when there are more competitors. An increase in the number of competitors enhances inferences of the managers' abilities, which in turn induces investors to use high-powered incentive contracts that lead managers to provide more effort.

Some literature focused on the impact of competition from entrepreneurial firms, as opposed to managerial firms. Hart (1983) argued that a higher competitive pressure, in the form of a higher proportion of entrepreneurial firms, has a positive impact on managerial behaviour when managers are not very responsive to monetary incentives. Scharfstein (1988) pointed out that competition might lead instead to more slack when managers are sufficiently responsive to monetary incentives as opposed to non-monetary incentives. Hermalin (1992) stressed the sensitivity of the analysis to the presence of income effects in managers' preferences and the effectiveness of financial markets in pushing firms toward profit maximisation in the context of an economy-wide growth model. Schmidt (1997) emphasised another potentially positive impact of competition on managerial effort, through a greater threat of bankruptcy. Willig's study (1987) has implications for the owners' incentives to induce high levels of managerial effort. As competition reduces individual market shares but increases demand elasticity, an increase in competition may have an ambiguous impact on the benefits attached to better management and thus on the incentives to induce such a higher level of managerial effort. Martin (1993) demonstrated in a Cournot model that an increase in the number of competitors tends to reduce managerial effort; some studies stressed other aspects that define the nature of competition.

Another important impact of competition is to introduce or reinforce the possibility of bankruptcy, which further promotes incentives and managerial effort, which was analysed by Schmidt (1997). It not only provides managers with direct incentives to expend more effort to avert bankruptcy and thus keep their jobs, but it also makes it cheaper for the owners to induce higher levels of managerial effort. Thus through the threat of liquidation, an increase in competition will lead to an increase in managerial effort. Another channel through which competition may affect managers' behaviour is by reducing the available free-cash flows of firms. Jensen (1986) argued that this might reduce the scope for investment projects that are not very profitable but yield important private benefits for the managers.

3.3.3 Competition, Innovation and Development

Competition is often seen as a spur to economic efficiency as firms pursue and adopt innovations in order to gain a competitive advantage. Following the Austrian and evolutionary schools, much progress has been made in taking into account the inter-temporal nature and non-price dimensions of competition. Research and Development (R&D) and innovation are among the central concerns. Economists have long been interested in the impact of competition on innovation and, consequently, on economic development. The standard industrial organisation literature predicts the negative correlation between competition and innovation because more competition reduces the monopoly rents that reward entry by new successful innovators. However, empirical work such as Geroski (1994), Nickell (1996) and Blundell *et al.* (1999) has pointed to a positive

correlation between market competition and innovative output.[26]

There is substantial empirical literature on the impact of competition on innovation. The main challenge is to distinguish this impact from the contributions of other factors, such as technological opportunities and scale economies. Using panel data to control for differences in technological opportunities, the evidence suggests that concentration and other indicators of monopoly power tend to reduce the rate of innovation (Rey, 1998). While many empirical studies have demonstrated that large firms tend to have higher rates of R&D, Blundell *et al.* (1993) showed that while firms with higher market share tend to innovate more, firms in competitive industries tend to have a higher probability of innovation. In particular, as large market shares generate an increase in the level of industry concentration, they may lead to a reduction in the aggregate level of R&D expenditures. Since successful innovation likely to lead to a larger market share, another source of difficulty in empirical studies lies in feedback effect between monopoly power and innovation. Blundell *et al.* (1995) addressed this problem by using an explicit dynamic count data model. Their results showed that concentration has a negative impact on the probability of innovation. Controlling for firm-specific effects reduces the impact of market share, although it remains significant and positive. However, there are offsetting effects at the industry level, due to the feedback effect. The overall conclusion is that more competitive industries (that is, less concentrated ones) generate a higher number of innovations.

Several theoretical attempts have been made to reconcile the Schumpeterian paradigm with the empirical studies on the relation between competition and innovation.[27] Some recent studies have given further explanations for the positive impact of competition on innovation and, consequently, on economic development.[28] Based on the assumption that firms behave in the same way as profit maximisers irrespective of the level of competition, it is argued that monopoly conditions generate more innovation. A monopolist in economic theory is the sole producer of a good or service for which there are no close substitutes. It is argued that monopolistic firms can more easily fund R&D activities because they have more cash flows and face less market uncertainty. This argument relies on credit market imperfections and has not yet been formally analysed (Rey, 1998). Moreover, monopolistic firms have more incentives to undertake R&D activities since the prospect of monopolistic rents is more attractive than that of competitive ones. But this argument is counteracted by the replacement effect: a new competitor considers the entire profits from an innovation, whereas an incumbent is interested only in the additional profits; additional profits are much lower in the case of a new product that replaces a product already manufactured by the incumbent firm. Willig (1987) also emphasised the dual impact of competitive pressures on firms' residual demands: monopolists benefit more from a cost reduction since they have a bigger share of the market; however, demand elasticities tend to be higher under competition, thereby increasing the benefits of the same cost reduction.

Both theoretical industrial organisation and the endogenous growth literature deal with the relationship between competition and development. A number of models of endogenous growth (see Aghion and Howitt, 1992; Segerstrom *et al.*, 1990; Grossman and Helpman, 1991) predict a negative relation between competition and growth. Recent empirical work by Nickell (1996), Blundell *et al.* (1996) and Aghion *et al.* (2001)

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[26] See Aghion *et al.* (2002).
[27] See Aghion and Howitt (1998) for an overview.
[28] See Rey (1998).

suggested that more competition leads to faster growth by enhancing the speed of technological progress. The literature on R&D races yields ambiguous results about the impact of competition on innovation and economic development.[29] In case that the prospect of monopoly rents is what drives firms' investment in R&D, market competition can be detrimental to growth; similarly, the risk of imitation discourages innovation and growth – hence the importance of intellectual property rights (Grossman and Helpman, 1991). The conclusion depends crucially on assumptions about the precise timing of the R&D race game. In particular, when two firms are at a given point with the same level of technology, they become eager to get out of the consequential price war and thus invest even more in R&D. Then a more competitive framework can lead firms to invest more in R&D and thus foster innovation and growth (Rey, 1998).

In the context of an endogenous growth model, Aghion *et al.* (1995) compare the impact of competition on firms' innovation behaviour under two alternative behavioural assumptions: profit maximisation and conservative behaviour. According to the authors, an increase in competition reduces the benefits from adopting an innovation and so reduces firms' incentives to innovate. As a result, it adversely affects economic development – the endogenous growth rate decreases when competition increases. The alternative behavioural assumption that is explored is that firms maximise short-term profits but delay the introduction of new technologies as much as possible. This is rationalised by introducing private costs associated with the introduction of an innovation. Therefore firms adopt innovations 'at the last moment'. An increase in competition then implies that this last moment arrives sooner. Thus as competition increases, firms are forced to innovate more rapidly and economic development is also faster.

Aghion *et al.* (1999) introduced the 'competition as an incentive mechanism' argument (Hart, 1983) into the Shumperterian growth model. It was demonstrated that the relation between competition and innovation would be negative if most firms are value maximising and would be positive if they are governed by managers who mainly care about whether the firm can remain in business. An alternative approach (Aghion, 2001) extended the basic Schumpeter model by allowing incumbent firms to innovate. Firms innovate in order to reduce production costs. More competition may foster innovation and growth as it may increase the incremental profits from innovating and thereby encouraging R&D investment aiming at 'escaping competition'. In this case, a laggard firm in an industry must first catch up with the technological leader before becoming itself a leader in the future. The new approach modelling the agency problem is of particular relevance for developing economies. But link between the reality of developing countries and the theoretical concept of agency problem is missing. This provides some research gaps for future studies. Further empirical research on developing countries is also called for (Rey, 1998).

3.3.4 Developing Country Perspective

Competition can have desirable effects on growth and development, but does this conclusion also apply to developing countries? Is the focus of competition policy on allocative efficiency and consumer welfare consistent with the goal of development? Laffont (1998) argued that because developing countries are so far from the ideal 'first-best world of economists', it is not always the case that competition should be

[29] See Aghion and Howitt (1997) for an overview.

encouraged in these countries. According to this 'second best' theory of welfare economics, in case that any one of the theoretical assumptions required cannot be met, restricted rather than free competition may be a superior choice. The unfettered competition may not be appropriate for a developing economy and too much competition can be as harmful as too little (Singh, 1999).

In developing countries, market-supporting institutions are weak, corporate governance regimes are not well functioning, and information asymmetries and contract enforcement problems are usually significant. Competition can act as a substitute for some institutions in the areas where institutional arrangements were deterred. There is evidence that competition can substitute for an effective bankruptcy system because it exerts pressure on inefficient firms to go into liquidation. There is evidence that competition can substitute for strong shareholder control in firms in raising productivity growth. There is also evidence that competition can change the nature of labour market institutions.[30] In the institutional environment in developing countries, agency problems are likely to be more severe. Depending on the degree of agency problems, the same increase in competition may have a different impact on R&D and economic development. Competition may have a particularly favourable impact on R&D, productivity and growth when firms face important agency costs, as it is likely to be the case in developing economies. In such a situation in developing countries, according to Rey (1998), the main impact of competition would be to induce firms to behave more closely to profit maximisation. Competition has many more merits: it acts as a disciplining device, creating incentives that ensure that resources are more productively deployed, costs are reduced and profits are increased. This new perspective of analysis not only highlighted the necessity of competition policy for developing countries but have also implications for the design of competition policy in developing countries.

There are many potential restrictions to competition. In developing countries the main institutional obstacle to domestic competition may be government restrictions on market entry. Soft budget constraints and preferential treatment of state-owned enterprises are among other major restrictions on competition. Due in part to institutional obstacles to competition, even in the tradable sector, international competition may not lead to competitive domestic market. Excessive government regulation also facilitates corruption and lead to adverse distributional consequences by inducing workers and firms to escape into the informal market. Like in developed countries, private institutions can also cause restrictions to competition in developing countries. For example, the monopolisation of domestic distribution channels can mean that even when a good can be imported freely, there still may not be effective competition in the domestic market. In developing countries the transaction costs of collusion are lower because of the weakness of legislation and the inefficiency of monitoring system. Hence firms have lower implicit risk aversion and little to lose from colluding. Therefore, measures to prevent collusions and abuses of dominant positions are required.

Although horizontal constraints remain the main feature that hampers competition in developing countries, vertical restraints may also require monitoring. According to Cook (2001), there are several reasons. First, there is limited inter-brand competition in low-income countries so that vertical agreements can easily lead to forms of monopolistic collusion. Secondly, given the scale of firms in low-income countries, the scope to establish their own distribution channels or create new investment is lacking. Thirdly,

[30] See e.g. World Bank (2002).

governments in developing countries may actually support restrictions on distribution and, therefore, vertical arrangements are viewed as anticompetitive. In developing countries, vertical restraints within firms may impede competition but may also increase the level of competition. They may contribute to an increase in the supply of goods and services and improve product quality. It is necessary to establish the difference between agreements among competitors that are designed to restrict competition and vertical restraints that are designed to increase efficiency (Rodriguez and Williams, 1996). Caution must be exercised because not all agreements among competitors are inefficient (Graham and Richardson, 1997).

As to the importance of competition in developing countries, Singh (1999) suggested that there should be a concept of 'optimal degree of competition', based on the studies of experience of Japan and South Korea. To promote a long-term and sustained growth of productivity, there should be a related concept of 'optimal combination of competition and cooperation' between firms, and there also should be a recognition of the concept of 'simulated competition', which involves contests among those seeking state support and which can be as powerful as real market competition. How can competition be introduced or reinforced in developing economies? A simple emulation of the competition policies of developed countries is inappropriate. One of the key elements in the promotion of competition in developing countries is to remove government restrictions on market entry. A major discrepancy between competition issues in developing and developed countries relates to the source of anticompetitive restrictions. In developing countries, dominant firms often result from the direct action of governments' industrial policy (Khemani and Dutz, 1995). As a result, dominant firms in developing countries may be inefficient, with the protection of market entry barriers. It is extremely harmful to the competition process that regulations are introduced to protect domestic firms, usually state-owned, from efficient entrants. Competition can be effectively injected into the economy by forcing firms to participate in competitive markets. This may mean relaxing government regulation, opening up domestic markets and forcing domestic firms into markets. Participation in international export markets may constitute an effective transmission mechanism for injecting competition in domestic markets and forcing domestic firm participate in market competition. According to the World Bank (2002), in developing countries, the policy priority should be to ensure both free market entry and exposure to international competition. However, in some specific industries in the particular context of emerging markets and transition economies, it is inappropriate to fully open domestic markets to new entrants and imports. Much more sophistication is needed with regard both to the institutional contextual characteristics and to technological industrial traits. Singh (1999)'s concept of 'optimal degree of competition' may provide a case for a more careful treatment to the relationship between competition and development.

Competition can also be promoted or protected by introducing or reinforcing competition policy and its implementation. In the short run, a well-implemented competition policy may protect and promote competition, accordingly ensure that allocative efficiency is achieved and consumer welfare is maximised. In the long run, in combination with other policy instruments, competition policy may help to stimulate technological progress and promote economic growth. However it is difficult to assess the competition effects in a developing country where market imperfections are manifold. Too much competition may sometimes be as harmful as too little. Furthermore, as mentioned above, the institutional contexts and technological traits of various industries are quite different in developing countries. Therefore, no uniform answer is applicable to different questions – the effects of international trade, inward FDI and government intervention

should all be considered when specific decisions on competition issues are being made.

3.4 The Necessity of Competition Policy for Developing Countries

For policy reform and institutional change, rationale not necessarily means necessity. What theoretical analysis provides is rationale, while the necessity lies not only in the rationale but also in real needs. Is there a real need for competition policy from developing countries? If there is an effective *de facto* competition maintenance mechanism, are there needs to replace or supplement it with a competition policy? For developing countries with different development level, at different developing phase, and facing different developing problems, there is no unique answer to these questions. The necessity of competition policy lies in some factors. To simplify the basic problem of necessity by focusing on only one factor is sometimes misleading. In this section, several practical issues associated with the necessity of competition policy are discussed.

3.4.1 Privatisation and Competition Policy

For almost two decades, a large number of developing countries and transition economies have been engaged in unprecedented efforts to alter their economic regimes. By the late 1990s, most developing countries had attempted policy reforms, with varying degree of commitment and thoroughness. Trade liberalisation and privatisation have been the central components of economic reforms. It is recognised that trade liberalisation will not ensure competition in non-traded sectors and privatisation alone will not necessarily achieve greater competition (Cook, 2001). Privatisation was undertaken for a number of reasons including promoting competition, improving economic efficiency, reducing the drain on government resources caused by public sector losses, raising revenues for the government and to help pay off the foreign debt by raising foreign exchange through the sale of public assets to foreign multinationals. In most developing countries, privatisations were strongly encouraged if not required under the structural adjustment program of the international financial institutions (see Subsection 1.5.1). Privatisation was often undertaken on the basis of its supposed revenue raising contribution to government that faced large domestic and international debts rather than solely on the purpose of promote efficiency and competition (Yarrow 1999). It is generally acknowledged that, rather than efficiency reasons, the main motive for privatisation in many countries was to achieve a relaxation of the harsh budget constraints which the international financial institutions enforced.

In the privatisation process of developing countries, the importance of competition has been recognised. The development of the private sector is viewed as a critical ingredient in poverty reduction strategies in low-income countries by international organisations (Cook, 2001). However, it remains debatable whether it is competition or an ownership transfer from public to private that matters most for improvements in economic efficiency (see Section 2.1). Much of the success of privatisation is premised on the existence of competition (World Bank, 1995; Cook, 1997; Shirley and Walsh, 2000). The economic result of privatisation is largely associated with the types of markets that are provided for and market conditions faced by privatised firms. When public monopolies are substituted with private ones, economies could be worse off. Privatisation without competition, as in the case of monopoly utilities, implies that regulation is required as a substitute for competition. Foreign acquisitions can be seen as a form of privatisation. This, in fact, is an

international consideration related to inward FDI, which we will discuss in Subsection 3.4.4 and in the next chapter.

In privatisation, the need to maximise revenue from the sale of state-owned firms might conflict with the objective of increasing competition, particularly in case that regulation is weak or absent. In the overall context of widespread privatisation, the need for competition policy became crucial. The economic liberalisation in developing countries has not necessarily reduced the market dominance of pre-existing large dominant firms. In some cases it may has been increased as a direct aftermath of privatisation, particularly in the utility and infrastructure sectors. Many privatised companies were natural monopolies under state ownership. Privatisation of them does not necessarily lead to promotion of social welfare since it simply replaces the public monopoly with a private one. The former may be preferable to the latter from a social welfare perspective, as there may be some consideration given to the public interests in the former's activities. In the new privatised domestic economic environment, competition and regulatory policies become extremely essential. The presence of a large state sector transferred to private control is probably an important reason why many developing countries have not until then felt it necessary to have a competition policy (Singh, 1999). The timing and extent of privatisation measures has varied between countries. Leaving aside transition economies, most developing countries with privatisation proceeds worth over US$1 billion between 1990 and 1997 had competition policies (see Table 3-4).

Table 3-4 Privatisation and competition legislation in selected developing countries

Country	*Privatisation proceeds (US$ billion)*	*Year of competition legislation*
Argentina	27.9	1923
Brazil	34.3	1962
Colombia	5.0	1959
India	7.1	1969
Indonesia	5.2	/
Malaysia	10.0	/
South Africa	2.5	1955
Mexico	30.5	1992
Pakistan	2.0	1970
Peru	7.5	1991
Singapore	1.9	/
Turkey	3.6	1994
Thailand	3.6	1979
Venezuela	5.9	1973

Source: World Bank (2000) and United Nations Conference on Trade and Development (UNCTAD) (1997a).

3.4.2 Competition Policy and Intellectual Property Rights

Intellectual Property Rights (IPRs) and competition policy are closely related.[31] For developing countries, the introduction of new institutions covering IPRs needs considerations of competition policies. IPRs provide exclusive rights within a designated market that result from some forms of intellectual inventions and meeting specific requirements. Patents, copyrights, trademarks, trade secrets or *sui generis* forms of protection may protect these rights. IPRs are designed to promote innovations and thus to

[31] See Gallini and Trebilcock (1998) and Maskus and Lahouel (2000) for detailed discussions.

promote economic advancement. This takes place by giving the innovators exclusive legal right to the economic exploitation of their innovation for a specific period of time. IPRs designate boundaries within which innovators may exploit their intellectual properties economically. The reaping of related profits serves both to reward the innovator for his investment and to induce others to innovate in the future.

IPRs create market dominance by restricting static competition, in the short run, in order to promote dynamic competition in the long run. Competition policy is aiming at promoting short-run allocative efficiency, which tends to drive prices toward marginal costs. This may appear to be in conflict with the exclusionary rights embodied in IPRs. This conflict can be reconciled if consumer welfare is viewed in the long run, that is, long-run consumer welfare depends on the dynamic efficiency of the economy. It is important to recognise that rights in intellectual property are not different from those in tangible assets in that they both permit the exclusion of others from the use of the assets. Property right is the institutional cornerstone of a market economy. Thus, IPRs, if properly used, are complementary rather than in conflict with the goals of competition policy. IPRs and competition policies share the same concern to promote technological progress to the ultimate benefit of consumers. Competition agencies should not only accept the legitimacy of IPR despite possible short-run restrictions on competition, but also recognise the unique features of IPR, which call for a customised approach to cases involving IPRs (OECD, 1998a).

Despite sharing important goals, however, IPRs and competition policies are not purely complementary and managing the interface between them can be difficult (OECD, 1998a). In competitive markets the awarding of IPRs rarely results in significant market dominance. However, in other circumstances a portfolio of patents and trademarks may generate considerable market dominance through patent-pooling agreements among horizontal competitors (Lahouel and Maskus, 1999). The intellectual property licensing agreements generally benefit competition, but they may be anticompetitive where they serve to cartelise an industry or to increase the market dominance of a single firm. Competition authorities must determine whether a particular agreement is likely to be pro- or anti-competitive. The problem is that restrictive clauses in a particular agreement may be either pro- or anti-competitive, depending on the circumstance. The manner in which competition policy is applied to these agreements can have an important influence on innovation. Competition authorities should be prudent so that competition policy enforcement does not hamper the creation and diffusion of innovations. Competition policy emphasises static market access and IPRs emphasise incentives for dynamic competition, this leads to tension between competition policy and IPRs. If structured properly, however, the two regulatory systems complement each other in striking an appropriate balance between needs for innovation, technology transfer and information dissemination (Lahouel and Maskus, 1999). Further detailed analysis of interface between competition policies and IPRs and cooperation between competition authorities and patent offices will be conducted in Part III. In developing countries that do not have a strong tradition of competition and innovation, strengthening IPRs could possibly raise market dominance and invite anticompetitive practices. Thus, competition authorities might be additionally needed to control the unwarranted abuse of market dominance, which may be extensive exploitation of an intellectual asset beyond the boundaries defined by IPRs.

With regard to competition policy, IPRs are not only a national issue for developing countries. In an international context, an important reason for developing countries to consider implementation of competition policies is that the Agreement on Trade-Related Intellectual Property Rights (TRIPs) envisions a clear linkage between strengthening

protection of IPRs and the need for the control of anticompetitive practices. The Uruguay Round TRIPs Agreement obliged all WTO members to enforce IPRs, though with transition periods for developing countries. The TRIPs Agreement urged countries to adopt minimum standards of protection for IPRs that are considerably stronger than those in many developing economies. The standards include the provision of pharmaceutical product patents, the reversal of burden of proof in process patent cases, limitations on the issuance of compulsory licenses, the designation of a protection system for plant varieties, the recognition of copyrights for computer programs, the protection of well-known trademarks, the security of trade secrets, and a comprehensive system of enforcement (Maskus, 2000; Primo Braga, 1996; UNCTAD, 1996b; and Watal, 2000).

Whether developing countries will gain from stronger protection of IPRs is debatable (Hoekman and Holmes, 1999). Those in favour argued that dynamic benefits resulting from greater incentives for innovation, both at home and abroad, and for owners of knowledge to license technologies will offset any static losses. The short-run impact of the TRIPs regime, however, is likely to cause a transfer of income from poor to rich countries, with at best marginal impacts on economic efficiency (Primo Braga, 1996). As Hoekman and Holmes (1999) suggested, the economics of this issue are complex. Many experts believe that as long as a producer faces competition from other brands exclusive arrangements do not matter. But in many developing countries the major brands may be in the hands of one firm or a *de facto* cartel. In the absence of competition policy, national exhaustion and legally enforceable exclusive distributor arrangements can have a major detrimental impact on welfare. Even if there is vigorous inter-brand competition, whether to adopt international exhaustion should be a matter for national authorities to decide independently. The TRIPs Agreement explicitly authorised the use of competition policy measures against abuses of IPRs. Competition policy is an institutional instrument for developing countries to protect their interests when intellectual property right holders will frequently use their IPRs to segment markets. This would imply that domestic buyers could purchase patented and branded products with the most favourable prices. This is fully compatible with the TRIPs Agreement: Article 40 allows measures to control abuses of IPRs through the application of competition policy (Cottier and Meitinger, 1998).

3.4.3 International Trade and Competition Policy: Is Competition Law Necessary Given Trade Liberalisation?

It is natural for a developing country to ask: is competition policy necessary given trade liberalisation? This consideration relates to an important theoretical problem: what's the relation between international trade and competition policy. At the theoretical level, two main concerns are important. First, what is the relation between trade and competition policy; does a liberal international trade largely substitute for a competition policy? Secondly, what is the relation between trade policy and competition policy; does a strict competition policy aimed at preventing abuses of market dominance conflict with for instance a strategic trade policy aimed at shifting rents in favour of domestic firms?

One of the key sources of benefits from international trade is that international competition constrains the ability of domestic producers to engage in anticompetitive practices, which would otherwise reduce welfare. This idea, known in the industrial organisation literature as the 'imports-as-competitive-discipline' hypothesis is not only a theoretical argument, but also supported by strong empirical evidence (see Cadot *et al.*, 2000). Most empirical tests of this hypothesis were based on regressing a measure of profitability, such as price-cost margins, on import penetration and a number of other

factors potentially contributing to industry profitability (see e.g. Roberts and Tybout, 1996). The conclusion of these empirical studies, mostly carried out at the industry level, is that increased imports tend to be negatively correlated with the profitability of domestic sellers (e.g. Jacquemin and Sapir, 1991; Roberts and Tybout, 1996), particularly when domestic concentration is high (Schmalensee, 1989). The empirical study on the links between import penetration and profitability is the beginning point of any attempt at quantitative assessment of the links between trade and competition policies. If we take increased imports as a proxy for liberal trade policies, this result suggests that liberal trade policies and tight competition policies are, in a loosely defined sense, substitutes (Cadot *et al.*, 2000).

Nevertheless, trade liberalisation may not be sufficient to generate competitive discipline and benefits from trade liberalisation may be dampened in the presence of anticompetitive forces. External liberalisation cannot substitute for a competition policy in case that liberalised foreign trade become subject to domestic monopolistic restrictions. Higher markups have been observed following trade liberalisation in sectors with high market concentration, low elasticity of demand, and companies abusing their dominant positions (WTO, 1998a, 2000a). For small but extremely open economies like Hong Kong and Singapore, it has been consequently argued that competition discipline was better enforced by trade liberalisation and that competition policy was of far lesser importance to them. This view, however, ignores the aspects of competition we discussed above. In addition, these economies can be the 'victims' of foreign anticompetitive practices that originate outside their jurisdiction but which harm competition in their market, such as in the case of international cartels or some M&As (WTO, 2000b).

Several reasons can explain why trade liberalisation may not be sufficient to generate competitive discipline.[32] First, imports have no direct competitive effects on non-tradable sectors. The larger the relative size of the non-tradable sectors in the economy, the less significant the 'imports-as-competitive-discipline' effect in the country, which depends more on government regulation.[33] Secondly, domestic firms may avoid international competition pressures by adopting strategies based on product differentiation and other dimensions of non-price competition. Thirdly, domestic firms may indulge in anticompetitive practices, sometimes with the support of domestic authorities.

The inherent interrelation between trade and competition policies highlights the necessity of a competition policy. Important resistance on the proclaimed 'globalisation' process is clearly anticompetitive. Exclusionary restraints on trade and investment by firms or governments hamper the ability of firms to gain access to or to compete in foreign markets. Trade and competition policies can be considered as two approaches to tackling such problems. Trade policy is focused on the actions of governments, while competition policy is principally focused on the behaviour of firms. In this respect, trade and competition policies are designed to look at restraints that stem from different sources. As suggested by the International Competition Policy Advisory Committee (ICPAC) (2000), aspects of these policies' tools can be mutually supportive, but overlapping policy concerns can lead to different conclusions regarding the effects of a particular restriction. For instance, examination of a vertical distribution practice under US antitrust law might find

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[32] See Cadot *et al.* (2000).

[33] Hoekman *et al*. (2001) supported this by showing that, both from a theoretical and empirical perspective, complex entry regulations are more likely to have larger negative effects on competition in large countries, whereas imports restrictions harm more competition in small countries.

that a restriction is efficiency-enhancing and beneficial to consumers, while the same restriction might be regarded from a trade policy perspective as exclusionary and adversely affecting access to markets. Neither trade nor competition policy tools provide complete solutions to the problems that emanate from the mix of government and private restrictions.

The relationship between competition and trade policies is complex because they regularly have contrary objectives. As Levinsohn (1996) noted, whereas competition policy aims to curb the market dominance of domestic producers, strategic trade policy attempts to encourage its emergence in order to shift rents away from foreigners. In the presence of the pressure from import-competing interests, reduced trade barriers may lead governments to search for alternative instruments of protection. Grounded in the observation that the reductions in tariff barriers negotiated in multilateral rounds of trade liberalisation have led to the spread of less transparent non-tariff impediments and to growing use of contingent protection, one might expect a selective relaxation of competition rules to be used strategically to provide favourable treatment to domestic producers (Fox and Ordover, 1997). Richardson's study (1996) suggested that the number of firms is higher in the constrained (free trade) equilibrium than in the unconstrained (tariff-ridden) one, which is contrary to the fears expressed earlier. Horn and Levinsohn's study (1998) reached a similar conclusion that trade liberalisation would lead to a tightening of domestic competition policy by a welfare maximising government. Starting from a position where the export subsidy is set at its optimal level, they demonstrated that a small reduction in this subsidy, taken as a proxy for trade liberalisation, induces a tightening of domestic competition policy. The political economic approach to trade and competition policies recognises that such policies are subject to lobbying pressures from both domestic and foreign entities. This approach to the determination of trade policy, sometimes referred to as the influence-driven approach was introduced by Grossman and Helpman (1994), based on developments in the principal-agent theory of Bernheim and Whinston (1986).

The relationship between competition policy and the multilateral trading system has been subject to much debate in academic literature and international organisations. In 2001, the future of a multilateral framework for competition within the WTO was discussed during the Doha Ministerial Conference. All member governments signing the Doha declaration recognised for the very first time that there is a valid case for the WTO to negotiate and conclude a Multilateral Agreement on Trade and Competition (see Subsection 8.2.3 for a detailed discussion). The negotiation of a multilateral agreement on competition in the WTO may underpin the impressive progress that has been made in trade liberalisation over the past few decades. Before the Doha Ministerial Conference, even the principle of having such an agreement within the WTO was controversial. On the one hand, there is wide acknowledgement that competition policy and trade liberalisation share common objectives of the promotion of economic efficiency and consumer welfare, and the lack of effective competition policies can harm gains from trade liberalisation (WTO, 1997; UNCTAD, 1997a; OECD, 2001). On the other hand, there have also been arguments against an expanded involvement of the WTO in the area of competition policy.[34]

The relationship between competition policy and the multilateral trading system is not a concern exclusive for developed countries. Although the debate on this issue was originally stimulated by developed countries' perceptions that anticompetitive practices

[34] See Anderson and Holmes (2002).

impede foreign market entry, it has been recognised that anticompetitive behaviour also impacts directly on the welfare and development of developing countries (UNCTAD, 1997a; Jenny, 2001; Hoekman and Holmes, 1999; and Levenstein and Suslow, 2001). It has been argued that international agreements can play a vital role in enabling developing countries to implement effective competition policy, by promoting cooperation in institution building and by providing a tool for overcoming domestic constituencies (Jenny, 2001; Garcia-Bercero and Amarasinha, 2001; and Birdsall and Lawrence, 1999).[35]

Within the WTO regime, in addition to the issue of the TRIPs Agreement, another consideration that highlights the necessity of competition policy with concerns to developing countries is the Agreement on Trade Related Investment Measures (TRIMs). TRIMs refer to restrictions attached by host countries to the activities of MNCs. It is acknowledged that TRIMs distort trade flows and are therefore inconsistent with the principles of the WTO. The removal of a TRIM can affect trade flows and such removal is the intention of the TRIMs Agreement in the Uruguay Round Agreement. The TRIMs Agreement imposed new prohibitions on the use of TRIMs, with transition periods for developing countries. The abolition of TRIMs reduces host government's bargaining power and accordingly reduces the potential gains from FDI for the host economy (Morrissey, 2000). The principal problem facing developing countries is that their legal systems, in particular their capability to implement competition policy and regulate MNCs without TRIMs, are limited. Measures to strengthen their capability to implement effective domestic competition policy are essential (Lloyd, 1998; Morrissey and Rai, 1995). For developing countries without competition policy, establishment and effective implementation of such a policy is crucial.

3.4.4 FDI and Competition Policy: The Interface

The 'imports-as-competitive-discipline' hypothesis suggests that liberal trade policies and tight competition policies are somewhat substitutes. However, the relationship between the liberalisation of FDI regimes and the necessity of competition policy is prominent. On the one hand, FDI liberalisation is a means of promoting competition among firms; on the other hand, in order to benefit adequately from FDI liberalisation, countries need to ensure that, as barriers to entry are removed, they are not replaced by anticompetitive practices of firms, not only domestic, but also foreign. According to UNCTAD (1997a), there is a direct, necessary and enlarging relationship between the liberalisation of FDI and the importance of competition policy.

Theoretically, the interface between inward FDI and competition policy is based upon the concept of market power. In the first half of the 20th century, some mainstream economic theories have sought to explain particular aspects of FDI and foreign production. The second half of the century witnessed the introduction of more integrated theories of FDI. The most influential theory – the eclectic (Ownership-Location-Internationalisation, O-L-I) paradigm – sought to integrate streams of thinking emerged. This paradigm dates back to the 1960s. The eclectic paradigm formulated by Dunning proclaims that firms invest abroad because of the existence of the ownership, location and internationalisation advantages. According to this paradigm, the scope and pattern of international production is determined by, first, the interaction between the competitive advantages of investing

[35] See Anderson and Holmes (2002) for a detailed discussion.

firms and those of the host countries, and secondly, the ways in which these firms organise their resources and capabilities across national boundaries regarding these two sets of advantages. In the 1990s, more attention was given by trade economists to incorporating relevant variables into their models of international transactions, while there was a renewal of interest in FDI as a financial phenomenon and also in its relationship with foreign portfolio investment. In the early stage of understanding of FDI, one possible explanation of FDI is that it is simply another form of international flow of financial capital based on differences in returns and risks between countries. This financial theory of direct investment is not adequate. It does not explain why this international investment would be large enough to establish managerial control over the foreign companies. Another possible explanation of FDI is that it is merely the outcome of perfect competition in which some firms almost accidentally happen to operate in more than one country. This approach is also not generally adequate. FDI is usually not easy or accidental, because establishing and managing successful operations in a foreign country are difficult. Local firms have inherent advantages in operating in their own environment. A foreign firm is at a disadvantage because it does not initially have the native understanding of local laws, customs, procedures, practices and relationships. In addition, the foreign firm has the extra costs of maintaining management control and it is expensive to operate at a distance, expensive in travel, and communication.

Then what makes it possible for a foreign firm to overcome the inherent disadvantages of being foreign? To be successful, the firm entering from abroad must have some firm-specific advantages not held by its local competitors in the host country. The firm-specific advantages sometimes lie in technology or patents. It may inhere in special access to a very large amount of capital, an amount far larger than the local firm can command. Or the firm may have marketing advantage or superior managerial know-how. The key role played by firm-specific advantages has led scholars to move away from the models of perfect competition towards the perspectives associating FDI with one or another kind of market power. Two variants, with differing policy implications, emerged: the Hymer view and the appropriability theory.

Hymer (1960) saw the role of firm-specific advantages as a way of combining the study of FDI with the classic model of imperfect competition in product markets. To Hymer, a 'direct foreign investor' is a monopolist or an oligopolist in product markets, which invests in foreign enterprises to restrain competition and protect its market power. According to Hymer, to be able to invest in production in foreign markets, a firm must posses some assets in the form of the knowledge of a public-goods character. The proprietary assets give foreign firms a competitive edge over domestic firms and allow them to overcome the transaction costs of operating across national boundaries. Hymer saw those assets as the source of a monopolistic advantage at home and abroad. This standard theory of FDI claims that 'for direct investment to thrive there must be some imperfection in market for goods or factors, including among the latter technology, or some interference in competition by government or by firms, which separates markets' (Kindleberger, 1969). Hymer argued that FDI was a form of corporate behaviour associated with imperfections in home country market, particularly high entry barriers. This argumentation provided the foundation of the theory of FDI and Multinational Corporation (MNC).

The appropriability theory (cf. Magee, 1977) claimed that the key firm-specific advantages that seem to make FDI take place do not imply such major threats to market competition. The firm must undertake costly investment to develop new technologies and superior management. The firm's challenge then is to earn an adequate return on this investment and to continue to invest to enhance its firm-specific advantages. The return

that it can earn is limited by competition from other firms, which are also attempting to build and exploit their own firm-specific advantages. Firm-specific advantages make the firm engage in FDI abroad for the same reason that make it built its own facilities, instead of buying from others, at home. In order to appropriate the potential gains from its advantage, the firm often finds that it is necessary to keep control and ownership to itself. The economics of whether to engage in FDI is an international extension of the decision about the boundaries of the firm.

If FDI really protects market power, as Hymer implied, then *a fortiori* host countries should be ready to impose restrictions on it. However, the appropriability theory has different policy implications from the Hymer view. Its emphasis on the productive nature of most firm-specific advantages motivating FDI favours host-country policies that either leave FDI alone or positively encourage it with favourable government treatment. Whether FDI should be left alone or actually favoured depends on how well the firm is able to appropriate the benefits of its own productive investment. If it can do so, the government can presumably leave it alone. If it cannot and there are 'external benefits' of its productivity that would spillover to competitors and other firms, the government should positively subsidise inward FDI.

Practically, the interfaces between FDI and competition policy lie in four areas: 1) at-entry inward merger review, 2) outward merger review, 3) post-entry competition issues, and 4) dominant positions with international scope (UNCTAD, 1997a). For a developing country, as inward FDI plays an increasingly important role in the economy, it becomes vital to ensure the efficient functioning of markets. The efficient functioning of the market depends on the contestability[36] of the markets and the nature of market competition. FDI can increase the contestability of domestic market at entry, or in the short run, but could also increase market concentration and lead to dominant positions and anticompetitive practices of MNCs after entry, or in the long run (see Section 4.2.2 for a detailed discussion). The adoption and efficient enforcement of competition policy may strengthen the way in which FDI liberalisation can enhance economic efficiency and consumer welfare and, therefore, promote the economic development of developing countries. One of the recommendations of the UNCTAD (1997a) was that member countries adopt, improve and efficiently enforce laws for the control of restrictive business practices. Competition policy applies to all firms operating in the national territory and supplying a particular market through various modes of entry, such as imports, foreign affiliates or non-equity forms of FDI. It does not, in principle, discriminate between domestic and foreign firms or between foreign firms from different origins. Competition authority monitors the behaviour of MNCs, with an aim of ensuring that these firms (like other firms) do not abuse their market dominance nor engage in anticompetitive practices.

Inward FDI interacts with competition policy when a foreign affiliate is established by the means of International Joint Ventures (IJVs) or M&As. Sometimes, IJVs may involve a market-allocation investment cartel to restrict competition. This is especially the case when a large firm acquires or mergers with another. Such transactions need to be examined by competition authorities, particularly when they occur between competing firms. They may also be subjected to anti-monopoly provisions if they are viewed as a means of achieving or promoting a dominant position. In fact, the primal reason why competition policy has been considered imperative is the gigantic merger wave, which was a defining feature of

[36] Baumol *et al.* (1982a) coined the term contestable to describe markets in which entry is so easy that the potential competition along suffices to eliminate excess profits. See Subsection 4.2.3 for details.

the world economy in the 1990s. A significant characteristic of the merger wave in the 1990s is the large incidence of cross-border M&As (see Subsection 2.3.1), most of which took place among developed countries. During the 1990s, a considerable proportion of FDI inflows in developing countries took the form of M&As rather than greenfield investment. UNCTAD (1999) suggested that if China (the largest FDI recipient in developing countries, but most of its investment has been greenfield) excluded, the share of M&As in the accumulated FDI rose from 22 percent during 1988 to 1991 to an average of 72 percent in the 1992-1997 period.[37] Cross-border M&A is becoming a common mode of foreign market entry in Latin America and Africa and, more recently, in Asian countries after the financial crisis (UNCTAD, 1999). The growing cross-border M&As brought about the concerns on the effects of M&As on competition and market structure. According to Lall (2000), in the absence of an effective competition policy, a liberal stance on M&As may lead to undue concentration or the suppression of competition in domestic market (see Section 4.2 for a detailed discussion). The benefits of M&As depend not only on the stance of foreign investors, but also on the policy environment of the host country and the conditions under which enterprises are acquired. To maximising the benefits and minimising the costs, a well-structured policy framework is necessary, in which competition policy seems to be crucial.

3.4.5 Evaluating the Necessity of Competition Policy for Developing Countries

For developing countries without a formal competition policy, the first thing that should be done is to evaluate the institutional ability to implement competition policy. A distinction should be made within developing countries between, on the one hand, countries at low levels of development and with low institutional capabilities and, on the other, semi-industrialised countries with greater institutional capabilities. Laffont (1998) argued that even if competition policy of the kind followed by developed countries were appropriate for the least developed countries in Africa, there is a long way for them to have the institutional capability to implement such policies. The introduction of competition policy requires new institutions and effective implementation of competition policy needs sound institutional capability. Only a strong state can implement competition policy (Laffont, 1998). Low-income countries lack financial resources and the human knowledge that make the effective implementation of competition policy possible. Although competition policy is proliferated in developing countries, the degree of success of enforcing competition law in the majority of developing countries was relatively low (Ghoneim, 2002). The situation is changing, particularly among the higher income developing countries that have recently strengthened their approach to competition policy (OECD, 1999). But many countries continue with weak system and processes for monitoring competition. The overall existing institutional environment prevented those countries from enjoying the benefits of such law (Steward, 2001). As Laffont advocated, competition is not the automatic outcome of deregulation, the existence of competition laws will not ensure the creation of proper institutions for effective competition.

For developing countries where institutional enforcement capability is limited, it seems appropriate to make conditions favourable for procompetitive behaviour, by starting free trade and avoiding the creation of monopolies through regulation or protection (Hoekman

[37] See Singh (1999) and Lall (2000).

and Holmes, 1999). For developing countries with a very small economy size and very low development level, institutional capability is apparently an obstacle for effective competition policy enforcement. The implementation capability itself limits the necessity of competition legislation. For these countries, it is important to adopt the broader meaning of competition policy, referring to a set of measures and instruments used by governments that determine the overall conditions of competition that are likely to be met in specific markets. The broader set of instruments includes privatisation, deregulation, trade liberalisation and FDI policy. But it is not sure what the optimal mixture of instruments is for particular countries. In developing countries with limited capability and supporting institutions, the priority for policymakers should be to facilitate market entry. Under certain circumstances, international trade can clearly promote competition in markets. Openness to international trade also helps exert pressure on governments to reform domestic market institutions that undermine the ability of firms to respond to competitive pressures from abroad. But the effect of this source of competition is mostly limited to tradable goods.

In many low-income developing countries, a competition policy that aims at promoting competition rather than controlling prices and market entry is relatively new. In developing countries, particularly transition economics, the past elaborate systems of price and entry controls were established around state-owned firms. State monopolies in some cases had been set up through nationalisation. State monopolies were often accompanied by import protection under import substitution policies. The ultimate effect of these policies may have been to suppress rather than promote competition. For these countries, free market entry and exposure to international competition can quickly introduce new forces of competition. Governments need to build more effective supporting institutions to address aspects of the international trade regime that can undermine competition. At the national level, this may include making further progress in liberalising services as well as manufacturing products, provided developed countries will at the same time grant sufficient access for developing countries' exports. In case this does not take place, trade policy regimes will suffer from considerable inefficiencies. Consequently, domestic competition policy regimes have to be moderated as well to these international realities. At the international level, it includes reducing compliance and certification costs of trade-related product standards (such as food safety standards) and taking advantage of the flexibility allowed in the Agreement on Trade-Related Intellectual Property Rights (TRIPs) to allow developing countries to maximise benefits (World Bank, 2002).

For developing countries with a relatively high economic development level and competent government machinery, the choice of introducing and implementing competition law and policy seems practical. For some of them, introducing competition policy is more urgent and important. The necessity of competition policy for developing countries is contingent upon particular issues. Some developing countries have a great interest in introducing competition policy in order to minimise the potential negative consequences of implementing some WTO agreements. The need may also arise from the increasing importance of inward FDI, as well as domestic issues such as privatisation. Tackling the effects of these developments requires establishing some forms of competition policy. All these issues are relevant to development and social welfare of developing countries in relation to the present and prospective discussions on competition policy. Among the issues associated with the necessity of competition policy, some international economic considerations are especially important, as developing countries are increasingly involved in the world economy. With the generally substitutional relation between trade and competition policy, FDI is the primal international issue that necessitate

competition legislation. For the countries that have emerged as major recipients of FDI flows in recent years, particularly China, the necessity of competition policy associated with the structural effects of inward FDI may be especially prominent. However, for one country, at specific time, one issue may be the most important concern as to the competition legislation, but to simplify the problem by focusing on only one factor is sometimes misleading.

Independent decisions and actions are required to ensure the implementation of competition policies that could foster an appropriate trade and investment regime, ensure that markets are contestable, and promote economic efficiency and consumer welfare. An appropriate competition regime should also take into account the market imperfections created by the interventionist activities of the government, in the specific social, economic and institutional context of a developing country, and by the political actions of other countries, in the framework of multilateral institutional arrangements, both of which may be influenced by the actions of foreign and domestic firms. Therefore the design of national competition policy regime should take detailed domestic conditions, particularly at the industry level, into account. In addition, international cooperation may thus be a vital part of the design of a competition policy regime, not only because it might support the building of domestic market-supporting institutions by providing experience and precedents, but also because it could contribute to international harmonisation and/or coordination of competition, FDI and trade policy regimes. In the absence of a specialised worldwide competition organisation and in view of the complementary relationship between trade and competition policy, the WTO may be the institution best suited to house a possible international competition agreement. Another interesting route towards multilateral cooperation in competition policy area is the International Competition Network (ICN). The international competition policy cooperation and the position of developing countries in it will be discussed later in more detail in Chapter 8 when the design of an appropriate version of competition policy for China will be discussed. Developing countries require special treatment in the sense of being allowed to pursue competition policies that are appropriate to their stage of development. It is important for developing countries to have a competition policy that is designed to take appropriate account of their level of development and the long-term objective of economic growth. An appropriate worded competition law should be developed. The practical concerns of design and implementation of competition policy for developing countries in general and China in particular will also be also discussed in Chapter 8.

4 FDI, Competition and Industrial Development

This chapter reviews the existing literature on the effects of inward Foreign Direct Investment (FDI) on industrial development. As noted in Section 2.3, industrial development can be understood as the progress in the scale, efficiency and competitiveness of industries. This chapter aims at establishing an analytical framework for mapping concrete effects of FDI on competition and industrial development. We first address the relationship between FDI and economic growth and then extend the analysis of the effects of FDI on economic development from macro- to micro-level. The impact of FDI on the structure of industries raises the first concern. Another issue arises in connection with the technological progress in industries and the innovation conducted by foreign and domestic firms. The problem with the traditional approaches is that they do not reveal in detail the nature of the dynamic process of industrial development. More importantly, the role and the nature of government policies and firm strategies remain largely overlooked. Competition is a crucial mechanism through which FDI influences the development of industries. It seems that the benefits of FDI on industrial development can hardly be achieved without a well-functioning competitive market. In the new context of FDI as discussed in Subsection 2.3.1, previous regulative instruments for developing countries may lose their effectiveness in regulating firms and ensuring the well functioning of market. Can this problem be tackled by a competition policy?

This chapter is organised as follows. Section 4.1 examines what is known from the literature on the growth impact of FDI in the context of an open economy and investigates the mechanisms of the FDI-led growth. Some specific microeconomic issues are particularly analysed to demonstrate how FDI can assist developing countries in achieving their development objectives. The potential costs of FDI and the possible market failures in FDI processes are also addressed in this section, with a discussion of their policy implications. The next sections examine the FDI effect on industrial development on the basis of both static and dynamic approaches. Section 4.2 reviews the studies on the effects of FDI on market structure. Section 4.3 then extends the traditional static approach by investigating the determinants of the market share achievements of Multinational Corporations (MNCs) and by considering the dynamic interaction between firm strategies and institutional factors. Section 4.4 discusses the FDI impact on technological progress in industries and on Research and Development (R&D) behaviour of MNCs and domestic firms. In this section, FDI is integrated into the analytical framework of a sectoral system of innovation. A structural upgrading model of industries on the basis of technological progress of domestic firms is developed to depict the progress of international competitiveness of industries.

4.1 FDI and Economic Development: From Macro to Micro Perspective

Balance-of-payment accountants define FDI as any flow of lending to, or purchases of ownership in, foreign enterprises that are largely owned by residents (usually firms) of the investing country. The proportions of ownership that define 'largely' vary from country to country. For the United States 10 percent ownership by the investing firm suffices as an official definition of direct investment. FDI encompasses any investment, whether new ownership or simple lending, as long as the investing firm owns over 10 percent of the foreign firm being invested in.[1] The distinction between direct and portfolio (non-direct) investment thus relates to the issue of control. For a host country, FDI is far more than its balance-of-payment definition. There is increasing agreement on the benefits that a country may seek to reap from inward FDI. The improvement in the investment environment since the mid-1980s was influenced by the recognition of the perceived benefits of FDI. Now most developing countries consider FDI as an important impetus for economic growth. But as developing countries embraced FDI as a potential source of economic growth, it has been recognised that different forms of FDI might have different impact. In particular the attitudes differ between greenfield investment, that produce an immediate impact on domestic value-added, and cross-border Merger and Acquisitions (M&As), that take the form of an ownership transfer of existing enterprises. Foreign M&As may be of ambiguous developmental value. For the host countries, in case that the foreign investor makes a long-term commitment to the acquired firm and invests in upgrading and restructuring its technology and management, the impact is very similar to a green-field investment. But if foreign M&As only lead to a change of ownership without adding to production capacity or productivity, they just add to the foreign exchange drain on the host economy (Lall, 2000). Large capital inflows can become large outflows when the investments are liquidated, giving rise to exchange rate volatility and discouraging productive investment. Many countries are also concerned about the adverse impact on employment.

4.1.1 FDI and Economic Growth: Beyond the Export-Led Growth Hypothesis

In the development literature, primary attention has been given to the role of exports in economic growth. Most empirical studies in this area have treated exports as the principal channel through which economic openness can affect the output level and eventually the rate of economic growth, that is, the export-led growth hypothesis. Since the mid-1980s, there is increasing agreement on the macroeconomic benefits that a developing country may seek to reap from FDI. The potential channels through which inward FDI can influence macroeconomic performance can be generalised into four respects. First, as external direct investment from foreign countries, it boosts the total funds available for investment in the host economy and provides a less volatile source of funds than indirect investment, that is, loans and portfolio investment. Second, as external direct investment from foreign firms, it is not only a source of funds, but also a vehicle for the transfer of technology and managerial know-how. Third, FDI may contribute to economic

[1] Balance-of-payment accountants also define foreign direct investment as any lending to, or purchases of stock in, firms controlled by parties in the investor's home country even if each individual investor does not own 10 percent of the firm being invested in.

development by raising both the quantity and the quality of employment. Fourth, FDI may increase the volume of international trade and thus promote economic growth.

Export-led growth

The export-led growth hypothesis postulates that exports are a main determinant of overall economic growth. There have been some arguments that provide the theoretical rationale for this hypothesis.[2] First, the export sector may generate positive externalities on non-export sectors through more efficient management and improved production techniques (Feder, 1982). Secondly, export expansion may increase productivity by offering potential for scale economies (Helpman and Krugman, 1985). Thirdly, exports are likely to mitigate foreign exchange constraints and can thereby provide greater access to international markets (Esfahani, 1991). Fourthly, the endogenous growth theory emphasises that exports are likely to increase long-run growth by allowing a higher rate of technological innovation and dynamic learning from abroad (Romer, 1986, 1989; Lucas, 1988; Grossman and Helpman, 1991; Edwards, 1992). Nevertheless, the empirical support for the export-led growth hypothesis is rather shaky.[3] While most cross-sectional studies have found a positive association between exports and growth, a considerable number of recent time series studies found mixed results either supporting or rejecting the export-led growth hypothesis. The lack of the unambiguous support for this hypothesis may stem from some methodological problems, argued by Giles and Williams (2000). It may also be the result of the omission of relevant mechanisms through which openness can promote growth (Cuadros *et al.*, 2001). The benefits of economic openness lie not only in trade but also in attracting FDI. Furthermore, there is strong interaction between these two key factors that define the process of economic openness. Since the mid-1980s, FDI flows have been growing at a pace far exceeding the volume of international trade and the aggregate stock of FDI rose fast with sales of foreign subsidiaries of MNCs substantially exceeding the value of world exports (Barrell and Pain, 1997). In the new context for FDI, focusing only on trade as a proxy for openness may therefore be misleading (Goldberg and Klein, 1999). Increasing attention has been directed toward the FDI effect of economic growth.

FDI-led growth

Theoretically, FDI affects host-country growth through two channels, that is, an impact on factor input and changing efficiency in the use of the production factors. In standard neoclassical economics, the level of output is determined by a bundle of inputs, while FDI is treated as additional investment that increases capital input. Investment is considered to be a key factor in economic growth. Most empirical studies of cross-country differences in growth rates have suggested that high growth is associated with high investment rates.[4] According to the 'resource gap' approach, developing countries are trapped in a low growth path because of the lack of financial resources and FDI can fosters economic growth in the host economy by providing additional capital to the host economy and alleviating the shortages of capital and foreign exchange. FDI can provide financial resources for developing countries and may play an important role in expanding total investment in host countries. FDI has its own advantages relative to other sources of international finance. A body of literature, especially following the financial crises in

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[2] See Cuadros *et al.* (2001) for a detailed discussion.

[3] For a survey of literature on relation between exports and growth, see Edwards (1993) and Giles and Williams (2000).

[4] See UNCTAD (1999) for a discussion.

emerging markets in the 1990s, has stressed these advantages.[5] Above all, FDI tends to be less volatile than other capital flows, thereby exerting more durable effects on growth (Lipsey, 1999). Moreover, FDI, as equity investment, will not lead to excessive leverage of the corporate sector, as excessive reliance on borrowed funds will do. This in turn lowers the debt burden and financial risk in the economy.

Beyond the basic macroeconomic stimulus from factor inputs, FDI may influence growth by raising factor productivity, or the efficiency of the usage of resources. Industrial organisation studies treat FDI as a 'combination of capital stock, know-how and technology' (De Mello, 1997), whereby it may affect both factor input and factor productivity. It is the ability of FDI to transfer not only production knowledge and managerial skills that distinguishes it from other forms of foreign financial investment, such as portfolio investment and foreign aid (Balasubramanyam *et al.*, 1996). Many empirical studies on the FDI-growth relation were to investigate whether FDI significantly affects the rate of economic growth via increases in Total Factor Productivity (TFP). Most empirical studies concluded that FDI generally make a positive contribution to both factor productivity and economic growth in host countries, beyond what domestic investment normally would trigger.

Endogenous growth theories reinforce the link between FDI and growth. They postulate that, when investment is taken into a broad sense to include expenditures not only on capital goods but also on technology enhancement and human capital formation, diminishing returns to investment may not exist. Therefore countries that devote a high proportion of output to investment may sustain more rapid growth than countries invest less.[6] The endogenous growth model point out that technological and knowledge externalities counterbalance the effects of diminishing returns to capital accumulation and keep the economy on a sustained long-term growth path. FDI not only introduces new capital goods and production processes, but also provides the technological and knowledge externalities. It provides a channel for knowledge acquisition and can contribute significantly to the increase of the knowledge stock in the host economy. FDI can therefore have both short-term and long-term impacts on host country economy and can (potentially) boost long-term growth. According to a survey (OECD, 2002a) of the main findings of a number of recent empirical studies conducted on the basis of estimated endogenous growth models, most of the 14 studies reviewed indicated that FDI does contribute positively to income growth and factor productivity in host countries.

Relation between international trade and FDI

International trade and FDI can be linked in a variety of ways. It is natural to think of FDI into a host country as a substitute for exports by the parent firm (or other home-country firms). However, the relation between trade and FDI is not straightforward. In contrast to the situation in which firms perform most of their activities in a single country, FDI leads to more trade as the firm's overall production is spreading across units in different countries. Trade among parent and affiliates engaged in various stages of production shows

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[5] See OECD (2002a) for a discussion.

[6] The endogenous growth theory objects to the convergence properties of the neoclassical model and claim that capital-scarce countries do not grow faster than capital abundant countries, differences in rates of return on capital are less than one would expect given the disparities in capital-labour endowments, and capital does not flow internationally towards the poorest countries. The objections to the neoclassical approach expressed in the recent literature have the common perception that the shortcomings of traditional theory have one source: a specification of the technology that gives too prominent a role to diminishing returns to capital (Ros, 2000).

that FDI and trade could be complements. Yet FDI is not always used to locate different stages of production in different countries vertically. Rather, many subsidiaries largely duplicate the production activities of the parent firm or subsidiaries located in other countries horizontally. In this case, the effects of FDI on trade are more complex and FDI and trade could be either substitutes or complements.[7] In many industries a firm must make a reasonable trade-off between: 1) centralising production in one or a few locations and exporting to many other countries, to achieve scale economies, and 2) spreading production to many host countries to take advantages of specific locations, or to avert impediments to importing into these countries. When scale economies are less important, or when transport costs and trade barriers are higher, for example, the trade-off would lead to FDI substitute for trade. To some extent this kind of FDI is also likely to promote trade for two reasons. First, the affiliates' production of the final product may require components and materials as input into production from the parent firm, affiliates in other countries, or independent suppliers in other countries. Although trade in final products may decrease, trade in materials and components increases. Secondly, this kind of FDI may also increase trade in final products because the affiliate improves the general marketing of the firm's products in the host country. The local affiliate displaces some trade for the specific products that it produces, but may expand trade through better local marketing of other specific products produced by the MNC in the home country or other countries.

Most studies conclude that FDI, on balance, is somewhat complementary to international trade (Pugel and Lindert, 2000). The overall complementarity seems to reflect both higher home exports of components used in affiliate production and higher home exports of final goods. For host countries, FDI may encourage export promotion, import substitution, or greater trade in intermediate inputs, especially between parents and affiliate producers (Goldberg and Klein, 1998). However, the empirical evidence about the relationship between trade and FDI is ambiguous.

MNCs are heavily involved in international trade. According to Pugel and Lindert (2000), about one-third of the world international trade occurs as intra-firm trade between units of MNCs located in different countries. Another third of the world's international trade involves a MNC as the seller (exporter) or buyer (importer), trading with some other firm. UNCTAD (1999) estimated the share of trade involving MNCs at around two-thirds of world trade for the second half of the 1990s. MNCs have a strong influence on the patterns of world trade since much of the international flow of goods is handled within MNCs in the form of intra-firm trade. In the case of the US MNCs, the share of intra-firm exports rose from 29 percent in 1990 to 31 percent in 1998, while it remained stable in the case of Japanese MNCs at around 38 percent. It has been observed that inward FDI has contributed to boosting the export performance of a number of developing countries. Export-oriented FDI from MNCs increases the speed with which a developing host economy becomes integrated within a global production network in sectors in which it may previously have had no experience (OECD, 1998b). Rodríguez-Clare (1996) and Calderón *et al.* (1996) argued that MNCs as leaders in some most important industries can help developing countries to expand their industrial exports and that the host country can benefit from an FDI-led export growth. What MNCs can bring for developing countries is not only additional resource of capital, technology managerial know-how, but also access to global, regional and home-country markets. This also involves foreign affiliates' privileged access to MNCs' intra-firm markets. One of the contributions that MNCs can

[7] See Pugel and Lindert (2000) for a discussion.

make to host economies is to enhance their export competitiveness. MNCs can help raise export competitiveness in some or all of aspects (UNCTAD, 2002). But, being integrated in the supply and trade networks of MNCs, can also for instance force developing countries in a more or less permanent position of dependence – certainly when the division of labour chosen by the MNC positions the nation at the 'lower end' of the supply chain (cf. Van Tulder, 2004).

Preconditions of FDI-led growth

The effect of FDI on economic growth depends on social, economic and policy conditions of the host country economy. As to the generic benefits of FDI, or benefits of boosting the total funds available for investment in the host economy, it depends on macroeconomic factors such as the savings/investment balance of the host economy and on its degree of integration into the international financial system (OECD, 2002a). For example, in developing countries in which domestic investment is limited by financial constraints, FDI can help promote growth simply by bringing in additional capital and by bridging the resource gap. Beyond these generic benefits, these macroeconomic conditions are extraneous, but there are some other conditions that are equally important, including technological capability, human capital and the development of domestic financial markets.

The ability to reap the potential benefits from FDI relies heavily on the technological capabilities of domestic firms. FDI tends to have far less growth impact in technologically less advanced countries. In empirical studies of FDI effect, the studies for developing countries tend to produce more mixed results than those for developed countries. According to Blomström *et al.* (2000a), this is because that FDI contributes to economic growth when a sufficient absorptive capability of the advanced technologies is available in the host economy. Secondly, the beneficial impact of FDI is enhanced in the host economies with high human capital stock. The quality of human resource in the least developed countries may be too low to make effective use of the technology introduced by foreign firms (Borensztein *et al*., 1995; Salvatore, 1998; Haddad and Harrison, 1993; Kokko, 1994). Borenzstein *et al.* (1998) found that FDI contributes to growth, while the magnitude of this effect depends on the stock of human capital in the economy. Blomström *et al.* (2000b) also demonstrated that FDI inflows have a significant positive effect on income growth for the most advanced developing countries, but no such effect for the least developed countries. Thirdly, the development of a domestic financial system in the host economy is a prerequisite for FDI to have a positive impact on economic growth (Hermes and Lensink, 2000). The impact of financial system development on growth has been widely studied empirically (e.g. Beck *et al.*, 2000). The growth effects of FDI mostly work through the adoption of new technologies that depend upon the availability of financial resources. Alfaro *et al.* (2001) developed a model showing that financial market constraints hinder the capability of domestic firms to benefit from FDI. This model was tested empirically by introducing both the measure of FDI inflows and of financial market development, as well as an interactive term of the two in the augmented growth regression.

In the least developed economies, FDI seems to have a less positive effect on growth than in developed economies. This has been attributed to the presence of 'threshold externalities', which provides one explanation of the disparities between empirical studies. Apparently, developing countries need to have reached a certain threshold level of development before they can reap the benefits associated with FDI (Saggi, 2000).

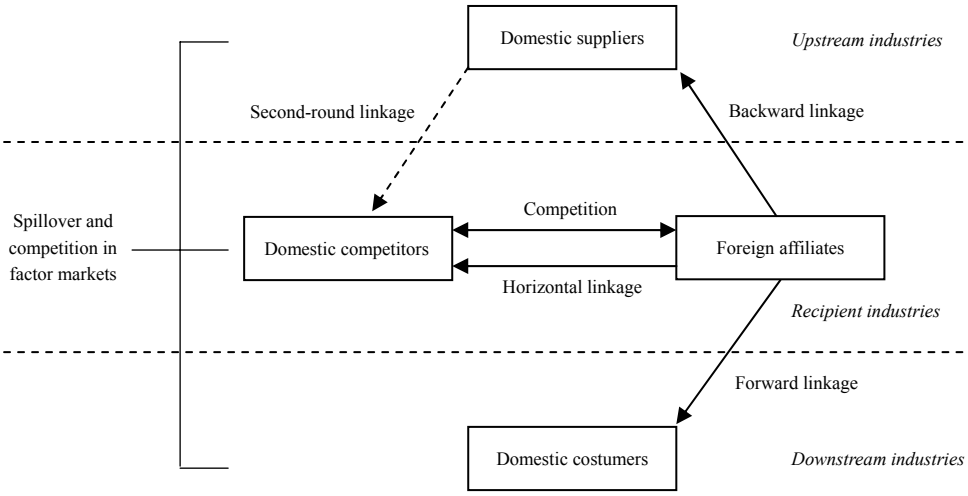
The beneficial impact of FDI on growth is argued to be enhanced in the environment characterised by an open trade and investment regime. Bhagwati (1978) hypothesised that

the volume and efficacy of inward FDI will vary according to whether a country is following the export promotion or import substitution strategy. He argued that a strategy of export promotion is likely to both attract higher volume of FDI and promote more efficient utilisation than is a strategy of import substitution. Without an environment of an open trade and investment regime, FDI may serve to enhance the rate of 'private return' to foreign investment while exerting little impact on 'social rates' of return in the host economy (Balasubramanyam *et al.*, 1996). With such an environment, FDI can play a key role in improving the capacity of the host country to respond to the opportunities offered by global economic integration (OECD, 1998b) and can promote growth through the association between FDI and international trade flows. This argument is challenged by the fact that economic growth may also be enhanced in relatively closed economic systems. Furthermore, there still lack evidence at the industry level to support the argument in favour of an open economic system. The lack of empirical studies in this respect is largely due to the complexity of policy environment in industries and the difficulty to identify the various dimensions of government policies and to separate the effect of one policy from another.

4.1.2 The Mechanisms of FDI-led Growth: From Macro to Micro Level Analysis

In mainstream economic literature, the positive effects of inward FDI on economic growth are stressed. This subsection examines the microeconomic mechanisms of FDI-led growth, exploring the arguments and evidence applied by the literature when the positive effects of inward FDI are concerned. The inclusion of FDI in neoclassical growth equations poses two major methodological problems. One is that of reverse causality, that is, the causality runs from growth to FDI. Another problem relates to the 'spurious correlation' caused by omitted variables in growth equations. Furthermore, as mentioned in Section 1.1, the standard growth accounting approach provides only a simple decomposition of output growth into its sources, without explaining through what mechanism these changes took place. FDI can influence macroeconomic performance through complex channels and different mechanisms. At the macro level, the FDI impacts on employment and on the international trade flows are the channels involved. As noted in Section 2.3, FDI is fundamentally a microeconomic phenomenon, which calls for firm- and industry-level analysis. FDI may have effects both on the recipient industry as well as on the upstream and downstream industries (see Figure 4-1). Foreign entrants inject competition into the recipient industry and may also develop (horizontal) linkages to the domestic competitors. Furthermore, FDI will typically change the condition of supply and demand in a number of related industries. The (backward and forward) linkages may extend to the domestic firms in the upstream and downstream industries thus the effects of FDI on industrial development go beyond the boundary of the recipient industry. The externalities that are introduced by foreign entrants from spillover effects may also benefit domestic firms both in the recipient industry and in other industries. On the other hands, the competition introduced by the foreign entrants in domestic factor markets may influence all domestic firms.

Figure 4-1 Mechanisms of FDI-led industrial development



Some microeconomic mechanisms of growth promotion have been the focus of considerable interest in recent empirical studies. FDI may have a positive impact on the development of recipient industries through direct introduction of capital, technology and managerial know-how and indirectly through spillover effects on domestic firms. FDI can influence indirectly the host economy through various channels: the demonstration and diffusion effects as well as the competition and stimulation effects. First of all, FDI can contribute to domestic economic growth because foreign firms tend to be more efficient than domestic firms.[8] Since the mid-1980s, endogenous growth theory[9] has emerged and provided persuasive reasons to link externalities, R&D, investment in human capital to the rate of economic growth. Many growth-promoting factors identified by the new growth

[8] For empirical examples see Wilmore (1986), De Gregorio (1992) and Borensztein *et al* (1995). An analysis of pairs of foreign and domestic firms of similar size drawn from 80 manufacturing industries in Brazil concluded that foreign firms have a significantly higher ratio of value-added to output than domestic firms (Wilmore, 1986). Similar results were obtained by De Gregorio (1992) in twelve South American countries and by Borensztein *et al.* (1995) for a sample of 69 developing countries.

[9] The new growth theory endogenised technological change. Rather than viewing technology as exogenously given, Romer (1986) assumed that knowledge is an input in production that has increasing marginal productivity. The focus on knowledge as the basic form of capital suggested departs from the standard aggregate growth model. New knowledge is assumed to be the product of research activities that exhibits diminishing returns. Investment in knowledge suggests a natural externality – the creation of new knowledge by one firm is assumed to have a positive effect on other firms because knowledge cannot be perfectly patented or kept secret. Production of consumption goods as a function of the knowledge stock and other inputs exhibits increasing returns – knowledge may have an increasing marginal product. These elements combine to produce a competitive equilibrium model of economic growth (Romer, 1986). The new growth theory offers an alternative view of long-run prospects for growth. It objects to the convergence properties of the neoclassical model and claim that capital-scarce countries do not grow faster than capital abundant countries, differences in rates of return on capital are less than one would expect given the disparities in capital-labour endowments, and capital does not flow internationally towards the poorest countries.

theory can be initiated and nurtured to promote economic growth through FDI (Balasubramanyam, 1996). Based on the new growth theory, increasing interests has been directed towards the indirect effects of FDI, namely, spillovers and other externality effects, and the linkage between foreign facilities and domestic firms.

The relationship between FDI and technological progress and human capital enhancement is the focal concern when studying the mechanisms through which FDI contributes to economic development. Access to better technology is the vital source of sustained growth.[10] The models of technology diffusion suggested that the rate of economic growth of a backward economy depends on the extent of adoption and implementation of new technologies that are already in use in leading countries.[11] Developing countries tend to lag in the use of technology. Most technologies deployed, even in mature industries, may be outdated. More importantly, the efficiency with which they use given technologies is often relatively low. Technical inefficiency and obsolescence lead to low productivity, affect the quality of their products, and handicap their ability to meet market demand. FDI can create new technological capabilities in the host economy and have beneficial spillover effects. In resource-based and low-technology manufacturing activities, the benefits of technology transfer may be low; in high-technology activities, however, they may be considerable.[12] Recent empirical studies suggested that FDI could be an important vehicle for the transfer of technology, contributing relatively more to economic growth than domestic investment (Borensztein, 1998). Human resource is another important dimension that cannot be neglected when we discuss the impact of FDI on economic development. Labour and human resources are indispensable factors of production in all economic activities. The increase of quality of labour generally contributes to increasing productivity and output. For all countries, reducing unemployment and raising the quality of employment are important to achieve income growth and an equitable distribution of income. They are critical components of development and provide means to translate economic development into social and human development. Employment and the quality of employment, both of which can be promoted by inward FDI, are linked with development intensively.

The microeconomic mechanisms of growth promotion include several aspects (see Figure 4-1). One of the main mechanisms through which FDI can enhance technological capabilities and human resources, and thus industrial development and economic growth, is by the spillover effects. Spillover effects refer to the externalities that are introduced by foreign entrants. Empirical studies addressing this question are generally focusing on the beneficial effects of these externalities to domestic firms in the recipient industry. These studies are more microeconomic in nature and few attempts have been made in the macroeconomic context to take into explicit account such spillover effects (Bende-Nabende *et al.*, 2000). Most empirical studies on FDI spillovers have focused on productivity[13], although non-productivity spillovers, notably the market access spillovers, have also been examined (cf. Aitken *et al.*, 1994; Buckley *et al.*, 2002). The impact of FDI on enhancing technological capabilities depends on more than the static process. It also

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[10] For a recent review of the significance of technology to development see Radosevic (1999).

[11] For previous discussions on technology diffusion see Nelson and Phelps (1966), Jovanovic and Rob (1989), Grossman and Helpman (1991), Segerstrom (1991) and Barro and Sala-i-Martin (1995).

[12] In many developing countries MNCs engaged largely in low-technology and labour-intensive production, where the level of technology transfer found to be low (OECD, 2002a).

[13] For empirical examples see Subsection 4.4.1 and Subsection 5.2.3.

depends on the dynamics process: how much upgrading of local capabilities takes place over time, how far local linkages deepen, and how closely subsidiaries integrate themselves to the local 'learning system' (Lall, 2000). The effects of FDI rely on the technological capabilities of domestic firms. The relatively low technological capabilities of domestic firms in developing countries provide one of the reasons why, in the empirical researches of productivity spillovers from FDI, the studies for developing countries tends to produce more mixed results than that for developed countries. A survey by De Mello (1997) pointed out that recipient countries' technological capabilities will influence the scope for spillovers and accordingly determine different roles played by FDI in fostering growth.

A related question to that of spillovers is whether foreign firms develop linkages to local firms. Broadly defined, linkages can also involve domestic non-business entities such as universities and training centres (UNCTAD, 2001). Strong linkages imply that the direct beneficial effects of FDI may be magnified. Linkages are of particular significance to developing countries because they could provide an effective means of diffusing valuable knowledge and skills throughout the economy, based on the strong knowledge and skill base of MNCs. The economic growth process can become self-reinforced and -sustained if linkages emerge from MNCs to the host economy. The primal way to promote spillovers and to reap the benefits of FDI for economic development is therefore through production linkages between foreign affiliates and domestic firms. Figure 4-1 shows that there are backward, forward and horizontal linkages between foreign affiliates and domestic firms. Backward linkages exist when foreign affiliates buy goods and services from domestic firms in upstream industries; forward linkages may occur when foreign affiliates sell goods and services to domestic firms in downstream industries; horizontal linkages involve interactions between foreign affiliates and domestic firms in competing activities. Among the three kinds of linkages, the backward one is the most important. Backward linkages may directly raise the output and employment of domestic suppliers. Moreover, for domestic suppliers, backward linkage may be the most effective channel through which local learning takes place. Backward linkage can promote efficiency and productivity of local firms. For instance, foreign firms usually place higher demands on the quality of the intermediates and on timely delivery, which force local suppliers to conform and thus become more efficient. The backward linkages can in turn lead to various indirect effects for the host economy. For instance, more efficient local suppliers of intermediates will also benefit domestic downstream firms in the value chain of production – therefore, backward linkages may also create forward-linkage (second-round linkage) effects to the downstream domestic firms, thereby promoting horizontal linkages and spillovers (see Figure 4-1). This indirect impact of backward linkages on the development of domestic recipient industry has been demonstrated by the model developed by Markusen and Venables (1999), which assessed the overall impact of the competition effects from FDI on recipient industries and the backward linkage effects on the upstream industries.

The fundamental mechanism through which FDI promotes economic development, according to the literature, is competition. Foreign entry may reduce the concentration and promote competition. Beneficial effects may stem from competitive pressures that foreign firms exert in the incipient industries. Tougher competition may force firms to reduce organisational inefficiencies in order to stay competitive.[14] Competitive pressures may force firms to become more productive and efficient. Countries tend to protect those

[14] For evidence see, for example, Blomström and Sjöholm (1998) and Kokko (1994).

sectors where the domestic industry has a comparative disadvantage due to the sectoral bias in trade protection (Graham and Krugman, 1995). Allowing inward FDI into these sectors may therefore crowd out local firms. Empirical studies have indicated that the net gains from FDI are larger if they take place in sectors where the country has low barriers to trade (Salvatore, 1998) or, more generally, in sectors where the local firms are competitive (Kokko, 1994; Salvatore, 1998).

4.1.3 Negative Aspects of the FDI Impact

By addressing the potential costs of inward FDI and the market failures in the FDI process, this subsection outline options for domestic policies to mitigate the negative aspects of the impact of FDI. MNCs can provide developing countries with proprietary assets, which are usually firm specific and difficult for domestic firms to acquire independently. Because MNCs are unwilling to part with their ownership advantages, FDI become particularly important for developing country to acquire these advantages and to establish competitiveness. However, the associated costs of inward FDI and MNC presence to developing countries should not be neglected. In the investment process, there are market failures and the objectives of MNCs can differ from those of host governments, which may possibly lead to adverse effects on development. Effective FDI policy in the context of constantly changing world economy is a demanding task. The challenge lies in to access to the proprietary assets of MNCs, but to disentangle these two kinds of effects, taking measures to maximise one and minimise the other.

Potential costs of FDI

FDI may provide host countries a package of tangible and intangible valuable assets. But it also offers a mixture of positive and negative effects. As most countries undertook substantial revisions in their FDI regimes, with a view towards FDI liberalisation, in some cases, the shift towards market forces may have been carried too far, too early, or in an inappropriate manner because possible costs of FDI were often ignored. Literature has identified cases in which certain costs of FDI can mitigate or even reverse the potential benefits of FDI. Three costs are particularly relevant. First, there are potential negative effects of FDI on the host economy by ‘crowding out’ domestic investment and suppressing local entrepreneurship. Secondly, there is an imminent risk that increased imports and profit repatriation could cause deterioration in their balance of payments. Thirdly, transfer-pricing practices, tax allowances and other financial incentives granted to foreign firms may reduce tax revenues of host country.

The central concern is to what extent FDI may crowd out domestic investment. This question has been studied theoretically, through the way of including domestic investment into growth equations (Borenstein *et al*., 1998) or estimating investment equations that incorporate FDI (McMillan, 1999; Agosin and Mayer, 2000). It should be cautioned that MNCs improve welfare only if they generate benefits beyond those that are generated by the domestic firms they displace. The risk of ‘crowding out’ domestic firms by FDI can take two forms: in product markets by adversely affecting local firms in competing activities and in factor markets by reducing access for local firms (particularly to finance). In this case, increased consumer surplus due to foreign entry must be weighed against losses in producer surplus. Foreign entry has short-term and long-term effects. In the short run the productivity of domestic firms may be reduced, while in the long run, the increase of competition induced by FDI may force inefficient domestic firms to exit and surviving efficient firms to improve their performance, leading to improvement of social welfare (Hu

and Jefferson, 2002).

The neoliberal approach to inward FDI led many governments not only to remove all restraints to FDI inflows but also to abandon their tools to guide and bargain with MNCs. Countries got engaged in a (financial) 'incentive wars'.[15] This 'incentive wars' lead countries into a financial incentives-competition race towards the sky, a fiscal incentives-competition race towards zero, or a policy-competition race towards the bottom (UNCTAD, 1999). In fact, financial, fiscal and policy incentives are among a portfolio of location advantages that include access to markets and immobile tangible and intangible resources. There are much more important advantages that developing countries can offer. Attracting FDI by only focusing on providing incentives in practice rarely makes a country win the competition for FDI attraction. It does not contribute to its economic development as well. The building of a favourable investment environment is a key that affects the business operation at the micro-level and is claimed to influence the competitiveness and growth of a country at the macro-level (Ng and Tuan, 2002).

Market failures in the FDI process

Markets are not perfect and market failures may lead agents to fail to exploit endowments or to develop new endowments. Where market mechanism is weak and supporting institutions are absent, information may not flow efficiently, risky projects may never be undertaken, costly learning may not be undergone, and externalities and linkages with other agents may result in under-investment (Stiglitz, 1996). There are detailed analyses of market imperfections in developing countries. While many macroeconomic models rely on some forms of market imperfection, they do not adequately address where these imperfections stem from. Based on advances in game theory and the economics of information[16], the literature in this area has witnessed a remarkable explosion since the 1980s. This literature explains the source of distinctive institutional characteristics of the informal economy in developing countries. The market imperfections in developing countries include: fragmented labour and credit markets, persistent lack of market clearing, pervasiveness of long-term contracts, unequal treatment of similar workers or firms, and so on.[17] These market imperfections are typically difficult to explain within the traditional neoclassical theory. Neither are most of them consistent with traditional understanding of monopoly or oligopoly. Accordingly many scholars have pointed out the irrelevance of neoclassical economics to the context of developing countries and the need for alternative paradigms. The economics of information provide a cogent explanation of many institutional characteristics in developing countries, within the context of an analytical framework grounded on the same methodology as the traditional approach.

With regard to market failures associated with the process of inward FDI, however, the research has been rare and the focus hitherto is the effects of government policies on market imperfections and the investment decisions of MNCs (cf. Brewer, 1993). The proper consideration of the role of MNCs in development requires a more complex framework for analysing the development process, taking account of the market, as well as institutional, imperfections. According to Lall (2000), there may be market failures in the investment process caused by information and coordination failures. MNCs may have

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[15] See UNCTAD (1996a, 1996c).

[16] The idea of the possible failure and decadence of markets has been advanced in works by Akerlof (1970) and Arrow (1971).

[17] For a detailed discussion see Mookherjee and Ray (1999).

inadequate information on potential locations selection and the investment decision-making maybe subjective and biased. Prospective investors, even the largest firms, do not always conduct systematic worldwide search for opportunities. Most firms consider only a small range of potential locations (IFC and FIAS, 1997). The coordination between investing firms and host country governments plays a crucial role in the FDI process. However, there may be failures of coordination between MNCs and host countries. In order to attract MNCs' mobile assets, effective promotion could go beyond simply focusing on advertisement into coordinating the supply of immobile assets according to the specific needs of MNCs. However, a developing country may not be able to meet MNCs' needs because of the limitations in technology, human capital, infrastructure and institutions.

The market failure also arises from divergences between the private interests of foreign investors and the public interests of the host country. Private and public interests may diverge for both foreign and domestic investment. However, some divergences are specific to foreign investment because it differs from domestic investment in that the focus of decision-making lies abroad and the foreign investor has less commitment to the host economy and is also more mobile (Lall, 2000). The basic objectives of MNCs and host country governments are different: governments seek to promote welfare and development while MNCs seek to enhance their performance and profitability. Therefore, FDI inflows are not always in the best interest of host countries and some can have adverse effect on development. In some scenarios, MNCs' objectives may differ from those of developing countries. For instance, the presence of MNCs in a host economy may crowd out local firms, thus conflicting with the goal of domestic enterprise development. MNCs may advocate stronger intellectual property right protections while a host country may favour weak ones to permit greater diffusion of technologies.

Another source of market failure in the investment process and afterwards, relates to the fundamental mechanism of market – competition. According to the mainstream explanation of FDI, as discussed in Section 3.4.4, FDI itself is a manifestation of market failure. The existence of market dominance, as well as the abuse of it, is one of the fundamental market failures that economists and policy makers attempt to tackle. Three sources of market dominance that are under the control of competition policy, collusion, predatory practice and M&A, are directly related to FDI. The interface between competition policy and FDI, as discussed in Subsection 3.4.4, necessitates a policy solution for the market failures in the FDI process. In developing countries, without an effective competition policy as necessary market-supporting institution, market failures in the FDI process in terms of market dominance are becoming a prominent issue and cast potential negative effects on industrial development.

Policy implications

For developing countries, a passive *laissez faire* approach to inward FDI is not sufficient due to the existence of potential costs and market failures. While FDI provides a package of valuable assets and offers a mixture of positive and negative effects, this does not mean that simply opening up to FDI is the best way to obtain them. The market failures in the investment process and divergences between the objectives of MNCs and governments provide the space for government policies. Polices on FDI are needed to counter several sets of market failures: the first arises from information and coordination failures in the investment process; the second arises from divergences between the private interest of investors and public interests of host country, or the basic objective of MNCs and governments; thirdly, there are market failures in the FDI process in terms of market

dominance and the abuse of it. These market failures may lead a country cannot be able to attract the volume and quality of FDI they desire, or lead FDI to have negative effects on development.

Due to the existence of information imperfection, it may be worthwhile for country to invest in advertising to alter the perception of potential investors by improving its image, taking economic fundamentals as given, (Wells and Wint, 1990). Such kind of promotion can be extremely effective in raising the inflow of FDI and it quality, as demonstrated by the experience of Ireland, Singapore and Costa Rica (Spar, 1998). Due to the existence of the coordination failures, it is helpful if the host government discovers MNCs' needs and meets them in the competition to attract FDI. The cases of large investment projects of MNCs in China have illustrated how the process of coordination influent the location decision of foreign investors. For example, in the competition for a large investment project in semiconductor industry, Shanghai and Suzhou endeavoured to provide almost whatever MNCs wanted in order to influent their location choice. The case of Costa Rica has illustrated that it was preparation to invest in training to meet Intel's skill needs that attract the investment (Spar, 1998). Although there are divergences between the private interest of investors and public interests of host country, there is a considerable overlap between the objectives of MNCs and host countries. Since the overlap is incomplete, it is important for developing countries not only attempt to attract FDI, but also try to maximise its contribution to the ultimate goal of development. Policies matter, perhaps more than ever (UNCTAD, 1999).

In the FDI process, there are bargains between the host country and MNCs. The outcome of FDI is influenced by how effective the host country bargains with MNCs. However, the bargaining power of developing countries is usually weak compared to MNCs. Weak bargaining power on the part of host governments may possibly result in the unequal distribution of benefits or abuses of market power by MNCs. Therefore regulation is needed. Necessary regulation consists of several aspects. One concern arises with respect to the environment. In their home country, MNCs face high environmental standards from environmental regulations. While in many developing countries, environmental regulations are lax or poorly enforced. Facing the danger of being a 'pollution heaven', developing countries should upgrade their level of environmental regulation. Another important regulation issue is that of transfer pricing. MNCs can now use transfer pricing over very large volumes of trade and service transactions to evade taxes or restrictions on profit remission. Developing country tax authorities are generally ill equipped to tackle this.

The capability of host countries to regulate firms in the means of competition policy emerges as an important policy issue. In the new context of FDI as discussed in Subsection 2.3.1, legitimate regulative instruments become less and less. Competition policy provides developing countries a standard tool to protect market competition and to ensure competitive business behaviour by firms, not only foreign but also domestic. Table 4-1 preliminarily summarises the potential effects of FDI on industrial development. At the firm level, FDI may crowd out or crowd in domestic firms. At the industry level, FDI may have both (static) structural and (dynamic) technological effects and the effects may be positive or negative. The effects at these two levels are closely interrelated. The next two sections of this chapter address the structural effect of FDI and Section 4.4 discusses the technological effect. The empirical evidence for these effects is simply summarised in this table, which highlights the directions for future empirical quests in this area (see the following sections in this chapter for details).

Table 4-1 Potential effects of inward FDI on industrial development: a summary

Item	*Positive effects*	*Negative effects*	*Empirical evidence*
Domestic enterprises	Crowding in – Linkage – Spillovers	Crowding out – By intensified competition – By reducing access for local firms to factors – By anticompetitive practices	The evidence for crowding out is rare; the effect of crowding in is an understudied area.
Structural effects	Positive industrial performance – Lower price – High product diversity and quality – High international competitiveness Increasing competition	Negative industrial performance – Higher price – Low product diversity and quality – Low international competitiveness Market dominance of MNCs – Dominant positions of MNCs – MNC abuses of market dominance (anticompetitive practices of MNCs)	Large body of literature on the FDI impact on concentration exists. Studies on the structural effect at the firm level (market share) and on the determinants of this effect are rare.
Dynamic (technological) effects	Technology transfer – Linkage – Spillovers Innovation spillovers	Inappropriate technology – Backward technology – Polluting technology	Large body of literature on productivity spillovers exists; studies on the FDI spillovers on the innovation activities lack.

4.2 FDI and Market Structure: The Static Approach

Study on economic development is usually from a macro perspective while knowledge on FDI needs a micro view. There is gap between these two perspectives preventing us from understanding the role of FDI to economic development. The ultimate objective of FDI promotion is to enhance economic development and social welfare in countries. Success in this respect depends not only upon increasing FDI inflows – and the technology, managerial know-how and market access associated with the injected capital – but also on ensuring that the markets in which MNCs participate operate efficiently and the industries develop healthily. In order to benefit adequately from inward FDI, countries need to ensure the efficient functioning of the market, which depends largely upon the contestability of markets and the nature of competition. Competition in general improves efficiency and enhances welfare (see Section 3.3). But entry by MNCs may not always increase competition. The theory of industrial organisation is the key in devising an analytical framework to approach the structural impact of FDI on domestic industries.[18]

Markets play a central role in resource allocation in a market economy. How well they perform depends in part upon their structure. The core concept used in the economic analysis of competition is market structure. A distinction between monopolistic and competitive market structure has long been recognised. Cournot (1938) took the most important single step towards a modern theory of why market structure matters (see Section 3.1). Since Bain (1959), the notion of market structure is intimately related to the Structure-Conduct-Performance (S-C-P) paradigm, which interlinks three questions: 1) what determines firm and market performance; 2) what determines firm conduct in the

[18] A number of new models have been developed for exploring the relation of FDI and market structure. Yin (1999) developed a supply-demand model of differentiated oligopoly. Glass and Saggi (2002) constructed a dynamic O-L-I model based on the quality ladders model of innovation by Grossman and Helpman.

market; and 3) what determines market structure? Since the 1980s, noncooperative game theory has assumed the central importance in the theoretical development of industrial organisation, but the empirical analysis of market structure has still been guided by the S-C-P paradigm.

4.2.1 Market Structure: Measuring Competition

It is difficult in practice to measure the degree of competition in a give industry. The concept of market structure provides a basic theoretical instrument for the assessment of competition in a given industry. As mentioned in Section 2.2.3, there are mainly three approaches to measuring competition. The first approach analyses market structure by considering factors such as the degree of market concentration. The second approach examines the consequences of market structure, such as the persistence of profitability, rather than market structure itself. The third approach investigates the behaviour of firms. These three approaches to the assessment of competition are consistent and complementary. Any approach is based upon the concept of market structure and the analysis of market structure is crucial to measure competition. Market structure consists of a set of variables that are observable and are perceived as determinants of firm behaviour. The measurement of market structure begins with the effort to define a relevant market. Each market exists in two main dimensions: how broad the market's geographic boundary should be and what range of products should be encompassed. Three elements of market structure are generally identified in literature: 1) the degree of market concentration, namely the number and significance of firms supplying a particular market, 2) the extent to which markets are contestable, and 3) the degree of product or process differentiation.[19] Market structure is of interests mainly because of its putative effect on firm behaviour. The traditional theoretical emphasis has been on pricing behaviour. Market share can also influence other aspects of business behaviour, the most important of which may be technological innovation. Traditionally, the element of market structure that has attracted the most attention is market concentration, which refers to the size distribution of firms that sell a particular product or collection of products. Market concentration is usually regarded as a significant dimension of market structure because it is thought to play an important part in determining market power and hence business behaviour and firm performance. Although high concentration need not be equated with a lack of competition, it facilitates abuses of market dominance and anticompetitive practices, which are a major interest for competition authorities.

Another central concept in competition analysis is market dominance, or market power. Prevention of the abuse of market dominance is the central concern of competition policy (see Section 3.2). Given the importance of market dominance in economic analysis and to competition policy in practice, considerable efforts have gone into its measurement.[20] To

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[19] In a seminal work on the elements of market structure, Bain (1959) pointed out four aspects: 1) the extent of seller concentration; 2) the extent of buyer concentration; 3) the importance of product differentiation; 4) the condition of entry. (Market share varies on the buyers' side, as the second point suggested by Bain. However, we focus on the sellers' side in this study.) Bain's framework comprises a small number of structural characteristics now seems to omit a number of critical structural variables such as information and cost conditions. Stigler (1968) pointed out that firms are more likely to be able to sustain noncompetitive behaviour the better their information on each others' actions. The game theoretical approach has expanded this insight and further stressed the importance of information. Baumol *et al.* (1982a) stressed the importance of sunk costs.

[20] See Geroski (1988), Scheffman (1992) and Baker and Bresnahan (1992) for the discussions of empirical

convert the formal results of economic theory into the operational requirements of competition policy, market dominance has to be measured by using indices. The Lerner index of market power and the Bain index of excess profits are two important indices of market dominance. The former measures difference between price and marginal cost (Lerner, 1934) and the latter considers persistent excess profit (Bain, 1956).[21] When using profitability as an index of market power in any antitrust case, however, the data have to be treated with great care if the correct conclusion is to be made. The use of profitability to test a number of hypotheses about market structure and market performance has been heavily criticised, generally to cross-sectional studies involving many industries. An alternative to these theoretical measures focusing on profitability is to use the characteristics of the size distribution of firms. Shepherd (1997) argued that market share and concentration measures are useful in determining market structure and so the likely conduct of firms. Under Shepherd's classification, abuses of market dominance are more likely to take place in industries with four-firm concentration ratio (CR4) exceeding 60 percent (tight oligopoly). As a consequence, competition policy should look at the firm behaviour in these industries. However, Baumol *et al.* (1982a) argued that concentration of market share in the hands of a few firms does not necessarily lead to the abuse of market dominance and questions must be asked mainly as to the likelihood of entry (see Subsection 4.2.3).

One of the general premises of the S-C-P paradigm has been that concentrated industrial structures facilitate activities aimed at the abuse of market dominance by incumbent firms, to the detriment of consumer interests. The market concentration doctrine, which holds that high concentration ratio is a reliable index of monopoly power, has been challenged since the early 1970s (cf. Demsetz, 1973). Firms in concentrated industries are likely to be more profitable. However, it could also be that concentrated structures result because large firms are more efficient and competitive; the observed effect is again likely to be higher profitability of concentrated industries. The advent of game theory into industrial organisation in the 1980s highlighted the endogeneity of market structure. Game theoretic models established conditions under which structure, conduct and performance are jointly determined, depending only on consumer preferences, technology, and assuming non-cooperative behaviour of firms to influence or change these, through advertising, R&D and investment in capacity. The game theoretical approach presented significant theoretical advances in the analysis of market structure. The work of Sutton (1991, 1998), for instance, has attempted to disconnect the analysis of industrial concentration from the limitations associated with the S-C-P paradigm by identifying the intensity of price competition and the level of endogenous sunk costs as the key determinants of concentration.

The theoretical justification for the link between industrial concentration and market dominance can be traced to oligopoly pricing models developed by Clarke and Davies (1982) and Dixit and Stern (1982). Under a general Cournot quantity-setting framework, the aggregate industry-level price-cost margin will be greater the less elastic demand and the larger the sum of the squared market shares (Davies, 1994). The latter variable is known as the 'Herfindahl-Hirschman Index' (HHI) and is advocated as having desirable

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approaches to measuring market dominance.

[21] Using these indexes to examine market power has two associated problems. Firstly, estimates of marginal costs are not included in firms' annual reports. Secondly, perfect competition does not exist in reality so all firms can potentially raise prices above marginal costs and enjoy some element of market power.

properties as a measure of concentration. The HHI is, however, demanding from the compiling perspective because its calculation requires data for the market shares of all firms within an industry. Consequently, empirical research frequently employs the concentration ratio as a substitute for the HHI. The concentration ratio is measured as the sum of the market shares of, typically, the four, five or eight largest firms in an industry with firms being ranked by sales.

Any measurement of industrial concentration attempts to capture the prevailing structure and the extent to which the competition mechanism functions in an industry. Any concentration measurement to some extent attempts to capture the importance of the number and relative size of firms within an industry. The more accurate the concentration measure, the clearer the picture of competition in any given industry. Some researchers (e.g. Hannah and Kay, 1977) have specified a collection of desirable properties and considered indices that might satisfy them. Some commonly used measures of industrial concentration are listed in Table 4-2.[22] In an international setting, a problem for using concentration ratios is the omission of imports and exports. In case that the imports are excluded from domestic sales, the concentration measures will overstate the degree of importance of the top firms. For example, if for an industry CR4 equal to 0.6 while foreign firms accounted for 40 percent of the market, the 'true' CR4 would be 0.36. The opposite would apply if exports were excluded.[23]

Table 4-2 Measures of industrial concentration

Index	*Definition*	*Properties*	*Origin*
Concentration ratio (CR)	CR measures the combined market share of top N firms in an industry, where N is normally between three and eight	CR only focuses on the top firms in the industry and takes no account of the market share distribution of other firms.	Most commonly used by industrial statistics
Lorenz curve	A Lorenz curve is used to show the share of the industry accounted by various proportions of firms.	A line describes percent of firms take percent of output.	Lorenz (1905)
Gini coefficient	The value of Gini coefficient is determined by the extent to which the Lorenz curve deviates from the line of absolute equality.	Gini coefficient focuses on the inequality of firm size but ignores the importance of firm number.	Introduced by Gini in 1912
Herfindahl-Hirschman Index (HHI)	HHI is determined by the sum of the squares of the market share of each firm.	The higher the value of the index, the less likely the industry will exhibit competitive behaviour.	Hirschman (1945) Herfindahl (1950)
The variance of logarithms (VL) of firm size	Using the variance of logarithms of market shares to measure the inequality in firm size.	The variance of logarithms of firm size focuses on the inequality of firm size but ignores the importance of firm number.	Hart and Prais (1956)
Hannah and Kay index	Using a similar measure to the HHI, Hannah and Kay index is a natural generalisation of the HHI.	There are no criteria on which to base the choice of the power, which measures the extent to which the index is influenced by larger firms.	Hannah and Kay (1977)

[22] For detailed discussions of various concentration measures see Curry and George (1983), Davies (1994), and Martin (1993).

[23] See Utton (1982) for a detailed discussion.

At the empirical level, the choice of an appropriate measure of concentration is more frequently decided by the nature of published date and the methodology employed by the national production census. For a number of years, the census authorities in both the United States and the United Kingdom have published information on industrial concentration for a large number of products in manufacturing industries.[24] The US Census of Manufactures regularly publishes the percentage of sales of specific products accounted for by the four, eight and 50 largest sellers. In the United Kingdom, the Census of Production includes similar information, but for the five largest sellers in more widely defined industries. However, concern with the relevant market brings about the first problem with the use of census data in the analysis of competition issues. Although we may be able to define a market satisfactorily for theoretical purpose, when we attempt to measure it empirically we run into difficulties, especially when using census information. The census data are designed to measure output from manufacturing industry in a particular year, not to measure 'market' in a way suitable for competition enquiry.

In the practice of competition policy, concentration index can be uses as a screening device. It can be generally recognised that – other things being controlled – the larger the number of independent firms operating after the merger the less likely that it will be detrimental to consumers. The intuition for this result is straightforward, as the ability of firm or merging firms to abuse market dominance clearly depends on the number of competitors. In the extreme case of a merger to monopoly, for instance, the new firm will not face any restraint imposed on its pricing decision from within the industry. At the other extreme, in an industry which is extremely fragmented and in which each firm possesses only a tiny market share, the impact of a merger on the market price will be irrelevant. This may simply provide rationale for using a concentration index as a screening device for market dominance. Until well into the 1970s the empirical analysis of market concentration as a screening device for possible competition policy action was largely based on static measures, such as the combined market share of the large four or five sellers (Utton, 2003). Often the measurement applied only to sales of domestically produced output and took no account of the international trade. More recently there has been much greater concern for the dynamics of market structure and also foreign competition. Thus for the correct analysis of market dominance the important point may not be that one firm has a large market share, but whether the change of the share has been rapid and which firm(s) is providing the most immediate competition. Therefore, several aspects should be investigated to assess whether abuses of market dominance are taking place: how market shares of established firms have changed over time; how potential entrants could affect the level of competition; the extent to which the power of buyers in the industry may offset the power of sellers.

4.2.2 FDI and Market Concentration

The relation between FDI and market concentration can be used as a starting point for examining the relationship between inward FDI and market structure (UNCTAD, 1997a). The traditional literature claims that FDI tends to reduce concentration and increase competition in host country industries.[25] The studies on developed countries, such as Australia (Brash, 1966), Canada (Safarian, 1969), France (Fishwick, 1982), the United

[24] See Utton (2003) for details.
[25] See Vernon (1977) and Caves (1982) for surveys.

Kingdom (Steuer *et al.*, 1973) and the United States (Knickerbocker, 1976), reported no positive association between FDI and market concentration. But this conclusion has long been challenged by some scholars who argued that its empirical verification was made only with reference to developed countries. For developing countries, which have a very different industrial structure from their developed counterparts, the entry of MNCs may have different effects and increase concentration instead. There has been ample empirical evidence to support the hypothesis that the level of FDI and MNC activity is positively associated with the level of market concentration in developing countries. The evidence from Brazil (Newfarmer, 1980; Willmore, 1989; Newfarmer and Marsh, 1992), Central America (1976), Guatemala (Willmore, 1976), Malaysia (Lall, 1979; Kalirajan, 1991) and Mexico (Newfarmer and Mueller, 1975; Connor, 1977; Blomström, 1986a) reported a significant correlation between participation of foreign firms and high level of industrial concentration. Some developed countries are also among the countries in which the level of FDI is positively associated with the level of market concentration.[26]

This evidence could be interpreted to indicate a correlation between MNC activity and industrial concentration in domestic markets. The models tested for a relation between FDI and market concentration have typically involved a cross-sectional equation with a measure of FDI as one of the determinants of concentration.[27] The positive correlation found is indeed a first step for analysing the structural effects of inward FDI. But these empirical studies usually did not answer the question whether MNCs raise concentration only by introducing new technology and managerial know-how, or they are an independent source of concentration after other factors that are commonly thought to determine concentration have been taken into account. Many factors have been identified in the industrial organisation literature to determine concentration. These factors include market size, market growth, economies of scale, capital intensity, advertising intensity, and so on.[28] In developing countries, inward FDI may not only influence concentration via these industrial parameters, but also, in addition to this, may have an independent impact on market structure. Perhaps the most thorough study on the effects of FDI on concentration is Lall (1979)'s study of Malaysia (see also Newfarmer and Marsh, 1981). Lall found that FDI increases concentration not only by introducing new processes and products and by raising the capital intensity of production, but also does so independently of the variables controlling this. Blomström (1986a) did similar work for Mexico. He used more comprehensive data than Lall and found virtually the same conclusion that MNC presence is an independent source of concentration after other factors have been controlled for. However, a problem remains: as an independent source of concentration, how FDI cause higher industrial concentration independently?

One basic problem of the empirical studies of the relation between FDI and market concentration is that the association of FDI with concentration does not clearly define the causal relationship between the two variables. Does FDI cause higher industrial concentration or is it attracted to concentrated market? If FDI cause higher industrial concentration, how does FDI do so, not by introducing new processes and products and by raising the capital intensity of production, but as an independent determinant? For the first question, Caves *et al.* (1980) found that MNCs create a supply of new entrants that would otherwise be deterred by economies of scale and other entry barriers (see Subsection 4.2.3).

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[26] See e.g. Dunning (1958), Steuer *et al*. (1973) and Davies *et al.* (1996) for the United Kingdom.
[27] Driffield (2001) introduced a new model based on concentration change.
[28] See Curry and George (1983) for a survey.

If MNCs cause concentration, they may decrease competition; if they are merely attracted to concentrated markets, they may increase competition. This can be largely clouded by the complexities of simultaneous changes in the number of competitors, technologies and market size. The traditional static approach cannot tackle these complexities.

The central issue is pertaining to the channels through which MNCs influence market structure. Do MNCs increase concentration through their mode of entry (M&As or greenfield), their behaviour, or scale barriers with large-scale investment relative to market size? The nature of MNC behaviour in host markets is associated with their ownership advantages or their possession of a unique combination of proprietary assets. According to Hymer's theory (see Section 3.4.4), firms operating in those markets usually possessed some intangible assets, such as proprietary technology, differentiated product and managerial know-how. The asset package of MNCs is the basis of their competitive advantages. The firm-specific advantages of MNCs and the transfer of such advantages may raise impediments to entry for local firms or make competition too strong for existing local firms and thus have an independent and positive influence on concentration (Blomström, 1986a). The fact that MNC possesses specific ownership advantage may also result in specific business practices of them. For example, since short-term loss is not too serious a problem for a foreign subsidiary of a MNC, local competitors may be driven out of business by entering into the price-cutting war started by the foreign competitor. As Newfarmer (1980) noted for the Brazilian electrical industry, MNCs may purchase domestic firms on especially favourable terms because of their strong command over technology and input markets. This kind of conduct may drive domestic competitors out of business, therefore influencing market structure. Foreign entry may also reduce concentration if entry into concentrated industries is easier for MNCs than for domestic firms.[29] There is phenomenon of defensive investment, in which firms in an industry gravitate abroad together as each fears the other will gain a competitive edge (Knickerbocker, 1973). By studying the pharmaceutical industry in Brazil, Evans (1977) demonstrated that MNCs create miniature replicas through their investment in subsidiaries and thus tend to reduce concentration.

The time dimension of the concentration effects of inward FDI has been addressed by the two-stage model developed by Dunning (1975). This model suggested that the structural effects of MNC entry will occur in two conceptually distinct stages. The first, at-entry effect encompasses the direct consequences of FDI on market structure. The second, post-entry effect concerns the reaction of competitors, including international rivals, other foreign affiliates and domestic firms. This approach highlights the core of the time dimension of the structural effects that FDI could pose on domestic industries. However, the dynamic process of the structural change in industries catalysed by inward FDI and the transitional process between these two distinct but continuous stages remain largely overlooked by the literature (see Section 4.3 for an effort of theoretical extension).

The at-entry impact of foreign entry depends on pre-existing market structure and entry mode. For new entry to reduce industrial concentration, entry must be via greenfield investment and must not displace an existing firm. Greenfield investment will add to the number of firms engaged in the production of a good or service and, in case that the production is for sale in the country market, to the number of sellers in the market. An exception would be when sales through the establishment of a foreign affiliate simply replace sales through exports by the parent firm or another affiliate of the MNC (UNCTAD,

[29] For evidence see Gorecki (1976).

1997a). This suggests that initial direct effect of greenfiled investment is normally to reduce – or at least leave unchanged – concentration. However, if an entrant's scale of production and sales were significantly large than that of incumbent firms in the local market, it would immediately secure a large share of the market, thereby increasing concentration. By contrast, FDI through M&A leaves the number of firms unchanged. If the M&A results in increased sales for the newly created foreign subsidiaries, entry through M&A would increase concentration. Entry via M&A is restricted by the availability of local firms to entering MNCs. Entry has to be via greenfiled investment when the investment is in this industry in which no local producers are present. M&A obviously cannot be a factor in the newly emergent industries where no local producer is present (UNCTAD, 1997a).

Whatever its entry mode, inward FDI can influence market concentration in the relevant market in host country, that is, the post-entry effect. The actual impact of MNC participation on product market concentration depend on a number of factors (UNCTAD, 1997a): 1) the number and size of MNC operations relative to local firms and other competitors in domestic markets, 2) the reaction of domestic firms to MNC entry and operations, 3) the competitive performance of MNCs relative to that of domestic firms and its effects on indigenous firms in terns of their long-term survival and strengthening of their capabilities, and 4) the behaviour of MNCs and other firms in the market. Empirical studies suggested that, in developed countries, these factors work, on balance, to reduce concentration or leave it unchanged. The average size of foreign subsidiaries of MNCs often tends to be larger than that of domestic competitors, according to empirical studies on developed as well as developing countries (see Dunning, 1993). The after-entry strategies of MNCs could expand their foreign affiliates and widen the gap (Frischtak and Newfarmer, 1994). There is considerable evidence to suggest that, because of their competitive advantages, MNC affiliates are often more efficient and productive than local firms (UNCTAD, 1995; UNCTAD, 1997a). But, over time, the competitive advantages of foreign affiliates may be eroded and domestic firms may enter and increase their market shares. There are empirical studies (e.g. Well, 1993) suggested this phenomenon. However, this process still has not been conceptualised in a manner that could capture the essence of this evolutionary process and, therefore, help policy makers understand the evolution of industries (see Subsection 4.4.3 for an effort to fill this gap).

4.2.3 FDI and Market Structure: Other Elements

After addressing the relationship between FDI and market concentration, in this subsection we discuss the impact of FDI on other elements of market structure, most importantly market contestability. Theoretically, a contestable market is the one in which the following conditions are satisfied: 1) there are no barriers to entry or exit; 2) all firms, both incumbent and potential entrants, have access to the same production technology; 3) there is perfect information on prices, available to all consumers and firms; 4) entrants can enter and exit before incumbents can adjust prices.[30] Degree of market concentration is probably the easiest to use in measuring competition, compared with the other approaches. But focusing only on current market structure variables misses the importance of potential competitors – those that could enter the market and, therefore, act as a discipline on

[30] See Baumol *et al.* (1982b).

incumbent firms. The analysis of contestable markets (Baumol *et al*., 1982a) is designed for cases in which the existence of scale economies precludes a large number of competitors. The theory of contestable markets suggests that an industry that consists of one or a few firms may be efficient. The basic idea is that incumbent firms will maintain prices close to the competitive level because of the threat exerted by potential entrants. Entry barriers are central to any analysis of market structure in this respect.

Adam Smith's emphasis on 'free' competition (mobility of resource across industries) implied a key dimension of market structure: the ease with which new firms can enter an industry. In a seminal work, Bain (1956) quantified the 'barriers to entry' concept in terms of the 'condition of entry'. In case that there are not impediments to entry, if incumbents raise price, entry will occur and the entrants will be able to produce as efficiently as incumbents because of the access to the same production technology.[31] Entry barrier can be defined in several ways. Bain (1956) defined entry barrier as factors that allow established firms in an industry to earn supernormal profits without attracting entry. Stigler (1968) defined entry barrier as a cost of producing which must be borne by a firm that seeks to enter an industry but is not borne by firms already in the industry. Caves and Porter (1977) argued that entry barriers apply not only to entrants, but also between different groups of established firms within industries. Groups may arise from differences in products or ownership structures. Demsetz (1982b) asserted that barriers persist in the long run only if they are erected and supported by the state.

There is no one simple, agreed system of typology of market variables that may provide impediments to the entry of potential firms. Bain (1956) identified three types of entry barriers: economies of scale, absolute cost advantage and product differentiation.[32] These three categories of entry barriers have been added to and refined. Shepherd (1997), for instance, listed 21 kinds of impediments as 'common cause of entry barriers'. Entry barriers may be thought of as either 'natural', which stemming from the structure of the relevant industry, providing shelter for the incumbent firms, or 'artificial', those that are 'created' by incumbents deliberately to prevent potential entry (Howe, 1978). Shepherd (1997) also divided entry barriers into two types: 'exogenous causes' that reflect the structural conditions of the market, such as technology, which are normally regarded as beyond the control of the existing firms, and 'endogenous causes' that identify the strategies that allow firm to erect barriers. Jacobson and Andreosso-O'Callaghan (1996) introduced the concept of 'barrier of the first order' to refer the domestic entry barriers, while 'barriers of the second order' refer to the additional impediment firms face when trying to break into foreign markets.

The opening up of markets to inward FDI and other forms of MNC participation can directly contribute to increasing the contestability of domestic markets (UNCTAD, 1997a). With the removal of entry restrictions and the establishment of standards of national treatment, inward FDI inject a new competitive force into domestic markets from abroad. Furthermore, MNCs may be better able than domestic firms to overcome some entry barriers that limit the number of competitors and harm market contestability. The

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[31] Moreover, if price declines as a result of the entry, the entrant will be able to exit the industry quickly and costlessly because there are no barriers to exit. When incumbent firms set prices such that they make profits without providing an incentive for entry, prices are said to be sustainable. A sustainable monopoly price is that which clears the market, allows the monopolist to break even, and leaves no opportunity for profitable entry. Sustainability therefore defines the equilibrium in a contestable market.

[32] See Lipczynski and Wilson (2001).

ownership advantages, or proprietary assets, of MNCs make them better able to enter some domestic industries with high cost-related entry barriers. Degree of entry barriers may also influences the impact of FDI on market concentration. In industries with high barriers to entry, inward FDI can make a significant difference to market concentration. This is especially relevant in the case of industries that have high start-up costs and economies of scale that make entry difficult.

Product differentiation is another important aspect pertaining to the FDI impact on market structure. The presence of a strong foreign owned sector will help increase the quality and range of products supplied to domestic consumers, even if not all these are produced locally (Dunning, 1993). Non-price competition through product differentiation based on advertising as well as through innovation is a typical feature of market competition in the industries into which MNCs entered. MNCs usually tend to have higher level of advertising than domestic firms. There is considerable evidence to show that competition from MNCs, particularly in developing countries, results in the introduction of new products and improvements in the quality and variety of existing products (UNCTAD, 1997a). It has long been recognised that manufacturing affiliates may serve as a marketing bridgehead for the parent company in a way in which a pure sales operation may not. This may enable MNCs to gain easier access to the local market for its other goods. This is especially likely in case that the MNC acquires or collaborates with a local firm experienced in marketing. Foreign-owned firms engage in more product differentiation than local firms, especially in developing countries. Caves (1974) argued that the ability to secure customer loyalty through cross-border product branding is one of main advantages of foreign firms. This is demonstrated by the advertising/sales ratio of foreign subsidiaries (*vis-à-vis* domestic firms) in many countries including the United Kingdom (Dunning, 1958, 1985), Brazil (Willmore, 1986) and Malaysia (Lall, 1978).[33] However, Lall and Siddharthan (1982) found a negative correlation between advertising intensity and foreign presence. Product differentiation also strengthens the FDI impact on market concentration. Manrique (1982), Newfarmer and Marsh (1992) and Willmore (1989) showed that product differentiation tends to increase concentration in consumer industries serving primarily local markets.[34]

4.3 Determinants of Market Shares of MNCs: A Dynamic Extension of the Static Approach

The association between inward FDI and market concentration can be strong in developing countries. However, any observed correlation between concentration and FDI based on the cross-industry studies needs to be carefully considered before concluding that there is a causal relationship. Since FDI inflows and industry concentration share common causes, the positive correlation between foreign presence and market concentration in host countries could imply not only that foreign presence leads to higher concentration or that higher concentration stimulates MNC entry; it could also imply that both are related to a third factor. The traditional cross-industry studies simply involved a cross-sectional

[33] They also face the question whether the higher advertising/sales ratios reflect other characteristics of MNCs, such as their size or product diversity.

[34] Most of the above studies rely on data about US MNCs, and it may be questioned whether these findings can be generalised to other foreign investors.

equation with a measure of FDI as one of the determinants of concentration. The positive correlation tested by the cross-industry studies, if carefully interpreted and supplemented by other information, can be used as a reasonable starting point for examining the competitive effects of inward FDI. The traditional approach overlooks the role and the nature of government policies and firm strategies. The ownership advantage of MNCs has been one of the cornerstones of the economic theory of FDI. However, competitive advantages of MNCs that stems from their entry strategies for foreign markets rather than their ownership of proprietary assets are generally overlooked in the international business literature. The actual relationship between inward FDI and market structure should be examined on a case-by-case basis by the intra-industry studies with sufficient consideration of firm strategies and institutional factors.

Although the traditional static approach surveyed in the last section highlights the core of the structural problem that FDI could pose on domestic industries, real markets, particularly those in developing countries, are constantly undergoing change. The FDI impact on competition is dynamic in nature and should therefore be studied longitudinally. However, there is very little empirical work on this issue, due partly to the lack of a conceptual design and succinct testable hypotheses. This section, therefore, seeks to extend the static analysis into the difficult area of dynamics and introduce a crucial question: namely, how market share achievements of foreign firms are determined over time? A conceptual framework is developed to facilitate the empirical studies on the dynamic relationship between FDI and market structure. The transaction-cost analysis of MNCs implies their prevalence in industries with concentrated sellers (Caves, 1971). Therefore we focus on MNCs and their business practices in this section.

4.3.1 Pro- and Anti-Competitive Effects of the Business Practices of MNCs

FDI has largely enlarged the role of international production in the world economy. More firms in more industries and countries are expanding abroad through direct investment. Today, approximately 60,000 parent companies worldwide have established over 800,000 affiliates abroad, with inward FDI stock valued at roughly US$ 4,000 billion (OECD, 2002a; UNCTAD, 2001). They provide an important source of industrial production and employment in many developing economies. In the new context of global economy, the nature and content of MNC activity has undergone a marked transition, as their ownership advantage, or mobile assets, have become more mobile around the globe. Although scholars and policy makers have addressed the role MNCs played in a host country's economic development since the 1960s, the net costs and effects of MNCs for a host country have proven difficult to estimate and are sill subject to debate (Fortanier, 2004). The presence of MNCs may crowd out local firms and the restructuring of acquired firms may result in massive layoffs.[35] The ownership advantage of MNCs makes them more possibly than domestic firms to engage in non-competitive conduct. Their freedom to exercise their market power will depend on the domestic policy environment and the reaction of domestic firms (Frischtak and Newfarmer, 1994). If MNCs dominate the domestic markets, the potential abuse of their dominant positions may pose severe threat to the industrial performance and development in developing countries.

The business practices of MNCs may affect the nature of competition in a host economy.

[35] For the recent discussions of the negative effects of MNCs on host-country economies, see Korten (1995) and Hertz (2001).

MNCs can inject competition into markets for goods and services and contribute to improving efficiency. The characteristic features of MNCs that cause FDI can also have positive consequences for market competition and, hence, for the industrial performance and development. However, the same competitive strength could, under certain conditions, also create opportunities for MNCs to eliminate competitors, gain dominant positions within markets and even abuse their market dominance and engage in anticompetitive practices, hence leading to possible reduction in efficiency. In case that concentrated market emerged as a consequence of MNCs' entry and participation, there may be more possible for them to indulge in anticompetitive practices in domestic markets. Firm behaviour has close relation with market structure. High market share are more likely to be associated with the possibility of anticompetitive practices such as collusion, exclusionary vertical practices and predatory pricing (see next subsection for a detailed discussion).

The subsidiaries of MNCs, because of its possession of ownership advantages and its status in an international production system, have more competitive advantages and greater conduct options available than domestic firms. These characteristic features of MNCs may affect the structure of the domestic market and can also have consequences for the degree of competition in a given market and, hence, for the performance of firms and an industry as a whole. The entry and operation of a MNC can inject competition into a domestic market, particularly if the market has a limited number of sellers relative to its size prior to the entry of foreign firms. The entry of MNCs can then be expected to improve the performance of industrial development and increase consumer welfare by lowering prices, improving product quality and introducing new technologies, in case that the relevant market continues to function efficiently.

Because subsidiaries of MNCs behave differently compared with domestic firms, one can evaluate the impact of MNCs on not only industrial but also firm performance. MNCs, because of their distinctive features, are often more efficient in production than their domestic counterparts. A number of studies suggested that average productivity levels are higher in foreign affiliates than in their domestic rivals (Dunning, 1993; Globerman *et al*., 1994). In developing countries, evidence suggests that foreign affiliates are often more efficient in production than domestic firms.[36] According to studies for Brazil (Willmore, 1986), Singapore (Lecraw, 1985), India (Kumar, 1990), Malaysia, Singapore and Thailand (Ramstetter, 1993, 1995, 1996), labour productivity in foreign affiliates tended to be higher than that in domestic firms in the same industry. Studies of TFP for a few countries also indicate a tendency for foreign firms to have higher productivity. There is some evidence from industry-level studies within developing countries to suggest that MNCs were profitable than their domestic competitors.[37] There are many other relevant studies on competitive behaviour, the efficiency of firms and the impact on performance.[38]

However, the discriminating characteristics, of itself as well as the environment, allow a MNC or its affiliates to pursue distinctive patterns of conduct or behaviour – some of which may have nothing to do with its efficiency. The entry of MNCs and their activities may not only enhance performance, with the competition they inject in, but also, under certain conditions, carry a potential for anticompetitive practices that could negatively affect the performance of markets and industries. Systematic studies on anticompetitive behaviour of MNCs are lacking (UNCTAD, 1997a). However, MNCs have involved in

[36] See UNCTAD (1997a) for a survey.
[37] See UNCTAD (1993b) for a survey.
[38] See UNCTAD (1993b) and Dunning (1993) for surveys.

many antitrust cases in recent years, which highlights the significance of this issue. The main types of anticompetitive practices in which MNCs may engage and that are of interest from the viewpoint of host countries include collusion, monopolising M&As, exclusionary vertical practices and predatory behaviour (UNCTAD, 1997a). The collusive practices, ranging from hard-core cartel to tacitly collusive behaviour, have always been one of the central concerns of competition authorities. According to Caves (1996), a MNC might be less inclined to join in with cosy collaborative local arrangements. But there are some essential features of MNCs that might strengthen the prospect of collusion (see e.g. Bernheim and Whinson, 1990). Although the potential for such collusion involving MNCs that is of specific relevance to host counties exists, there is no systematic evidence of such collusion. Most of the evidence regarding collusion predated the Second World War (Jones, 1986; Caves, 1996). A World Bank report (see UNCTAD, 2001) estimated the effect of price fixing agreement on developing countries. It reported that 6.7 percent of exports to developing countries, which were worthy of US$ 81.1 billion, came from industries in which price-fixing agreements have been detected.

4.3.2 Market Share and Market Dominance: Theoretical and Policy Concerns

Market share represent a firm's share of total industry sales, which is the leading element of market structure and is a simple fact which is central to the study of industrial organisation (Shepherd, 1972). The structure of a market is largely characterised by the size distribution of different competitors in an industry, which can naturally be considered as the distribution of the market shares of firms. For firms, market share can be considered a key measure of business performance. Market share is a relatively visible and easily monitored indicator of the strategy performance of firms. As a simple structural indicator, market share is the most general, direct single indicator of the firm's ability to exert market power (Shepherd, 1987). Within each market, each firm's market power varies with its market share. Although the market power is not in direct proportion to the market share, a dominating market share does provide a high degree of market power in the market. To the extreme, a pure monopoly with the market share of 100 percent controls the entire market and can exert the maximum market power that is possible under the specific conditions of the market. However, market shares may be misleading indicators of the market power enjoyed by a single firm or a group of firms. Endogeneity of market structure variables, as highlighted in the famous Harvard-Chicago debate[39] or in the recent industrial organisation literature, complicates the relationship between market share and market dominance.

Market structure is of interest largely because of the effect it is believed to have on firm behaviour. High market share are likely to be associated with the possibility of anticompetitive practices. Observing market shares and its distributions is a logic starting point in an enquiry into possible position of market dominance. Once the relevant market has been defined, it is a reasonably simple matter to compute the market share of the leading firm(s). In antitrust practice, both in the United States and in the European Union, market dominance has often been inferred from some structural characteristics, most importantly from market shares, assuming some market share and market dominance to be positively correlated. However, market share along may be a poor guide for competition

[39] See e.g. Comanor and White (1992), Hay and Werden (1993), Mueller (1993, 1996, 1997), Kovacic and Shapiro (2000) and White (2000) for discussions from an antitrust perspective.

analysis. In some important US antitrust cases in the early years, market shares was placed at the centre of an antitrust investigation with the presumption that the lager the market share the greater the market power. Since the 1970s, it has been recognised that, as long as consumer interests are served by efficient firms, even firms with substantial shares of markets, competition policy should not intervene. However, when large firms abuse their market dominance to exclude rivals in unreasonable manners, competition policy should act to preserve competition, both on prices and regarding product improvements stemming from innovation.

Despite shortcomings, market shares may contain valuable information on horizontal competition (White, 2000). The analysis of market share can act as a screening device for possible antitrust action. A high market share may justify a more thorough antitrust investigation, while a small market share tends to have the opposite effect – it is because those anticompetitive problems are unlikely to arise in the latter case. Some antitrust laws or implementation directives or guidelines have market share thresholds incorporated to simplify the inference of a dominant market position or when to challenge a merger. But we should be careful when interpreting market share for two reasons: first, a high market share in rapidly evolving industrial context may have no relation with anticompetitive concerns; secondly, although individual market shares of leading firms can be low and may be well below certain thresholds, these firms may, as a group, be jointly abusing market power to the detriment of customers (Canoy and Weigand, 2002).

There have been abundant empirical researches focusing on the relation between market structure and performance mainly since the 1960s. This relates to a central issue in the industrial organisation field: whether market structure determines performance or market power really does raise price and profits, in the patterns that can be tested empirically. The econometric research in this area began in the 1930s, at first centred on the relation between industry-level concentration and price, and then individual-company market share and profit rates. The market share data have been far scarcer than concentration ratios and thus those ratios took the centre stage in the literature of industrial organisation from the 1930s to the 1970s. Market share research has expanded since the 1970s, but it usually has to rely on relatively rough estimates of market share. The effect of market share on firm profitability has been estimated with regression models including the main structural elements as determinants. These elements include the industry-level factors, such as market concentration and entry barriers, and firm-level factors, such as market share, firm size, advertising intensity and firm growth. According to Shepherd (1987), various studies reported consistent findings – market share's partial correlation with profit rates is highly significant. The studies demonstrated that a large-share firm earns significantly higher profits than a small-share firm, which accord with common business experience. In these studies, the industry-level structural elements (market concentration and entry barriers) played much weaker roles, compared with market share.

4.3.3 Determinants of Market Share Achievements of MNCs

Examining the determinants of the market share achievements of foreign firms in domestic markets is the central concern when we study the structural effect of FDI on industries. By investigating the determinants of market share achievements of MNCs, the sources of their market power can be identified. Literature in industrial organisation and business administration can help us to identify the sources of market power, which may have important implications for designing an efficient policy to promote industrial development.

In the fields of industrial organisation, strategic management and marketing, a

substantial body of literature has been directed towards a better understanding of the determinants of market share achievement. The determinants of market share performance are usually classified into firm- and industry-specific factors. The former includes average cost, investment, pricing, advertising and efficiency. The latter includes market growth rate, product life cycle stage, market structure, technological change, demand concentration, distribution and customer responds. Methodologically, there are two approaches to the study of the determinants of market share performance. The static approach focuses on established or mature industries, departing from a relatively fixed number of competitors in one industry. It investigates how competition determines the market share achievements of different competitors. In the dynamic approach, the industry is considered to be in a process of industrial development and change through technological improvement and learning. Consequently, the timing of firm decisions and new market entries are considered vital factors that determine market share achievement. Market share research can also be divided into cross-industry and intra-industry studies.[40] The studies on industry-specific factors can only be based on cross-industry data. The studies on firm-level factors such as entry strategies can be based on both cross-industry and intra-industry samples. Facing the complexity of foreign market entry, intra-industry case studies are more relevant to generate insights and to expand and generalise theories.

Investigations into foreign market share achievement extend market share studies beyond a mere domestic setting. In addition to profitability and business survival, foreign market share has increasingly been recognised as a major measure of performance in international markets. The performance consequence of foreign market entry strategies has received considerable attention from international business researchers (Wilson, 1980; Root, 1987; Ryans, 1988; Li and Guisinger, 1991; Mascarenhas 1992a, b; Mitchell *et al.*, 1992; Woodcock *et al.*, 1994; Li, 1995; Luo, 1998; Shaver, 1998; Pan and Chi, 1999; Pan *et al.*, 1999; Isobe *et al.*, 2000; Brouthers, 2002). Although preceding studies that address the relation between entry strategies and market share achievement exist in the IB literature (Ryans, 1988; Mascarenhas 1992a, b; Mitchell *et al.*, 1992; Luo, 1998; Pan *et al.*, 1999), gaps remain. First, institutional factors are normally overlooked and the investigation of entry strategy has focused mostly on the mode of entry and, more recently, the timing of entry. There have rarely been studies that consider the multiple dimensions of entry strategy systematically and pay sufficient attention to more detailed aspects of entry strategy. Second, although the performance consequence of entry strategies and some other relevant factors has been studied, the relationship among these factors has not been clarified in a logical theoretical framework.

The study of the determinants of foreign market share can be based on the established theories and methodologies of market share determinants in the non-international setting, especially on the dynamic approach. However, to study the relation between strategic as well as institutional factors and foreign market share achievement, simply putting entry strategies into the spectrum of market share determinants is not appropriate. Figure 4-2 presents a theoretical model for analysing determinants of market share achievements of foreign firms in domestic markets.

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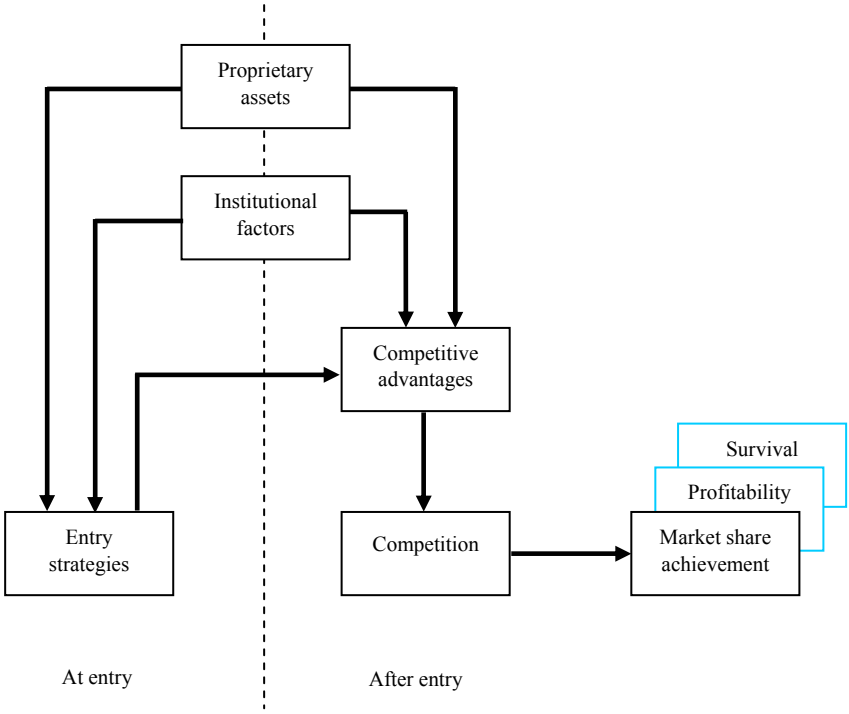
[40] Many studies pertaining to market share are cross-industry research, using the PIMS (Profit Impact of Market Strategies) database (Caves and Porter, 1978; Buzzell and Wiersema, 1981; Lillis *et al.*, 1985; and Robinson and Fornell, 1985).

Figure 4-2 Determinants of foreign market share achievement: a theoretical framework



The model shows that market share achievement should be considered as the outcome of competition. Entry strategies of foreign firms can influence the outcome of competition and make a difference to the market share achievements of firms entering a foreign market from abroad. Based upon specific entry strategies, a firm may preempt its competitors and develop competitive advantages by acquiring and accumulating strategic resources (superior resources and capabilities of a firm also affect its optimal entry strategies.) However, it is the competition process that ultimately determines the market share achievements of different competitors. Entry strategies *per se* do not affect market shares, but entry strategies do give firms particular sustainable competitive advantages, which can translate into market share differential. The model shows that competitive advantages stem from both proprietary assets and entry strategies.

Foreign firms face interrelated questions with regard to foreign market entry strategies: where to enter (location of entry), how to enter (mode of entry), when to enter (timing of entry), on what scale (scale of entry) and at what pace (sequence of entry). One stream of research in international business investigates the determinants of entry strategies, indicating how firms systematically make their entry strategic decisions. Another stream of research examines the consequence of entry strategies, showing that entry strategic decisions affect business performance of firms. In the studies of the performance consequence of entry strategies, the most attention is devoted to various modes of entry (Wilson, 1980; Root, 1987; Li and Guisinger, 1991; Mitchell *et al.*, 1992; Woodcock *et al*,

1994; Li, 1995; Shaver, 1998; Pan and Chi, 1999; Pan *et al.*, 1999; Brouthers, 2002). The timing of entry has received increasing interest (Ryans, 1988; Mascarenhas 1992a, b; Luo, 1998; Pan and Chi, 1999; Pan *et al.*, 1999; Isobe *et al.*, 2000; Gaba, 2002). But other aspects of the complex set of entry strategies (as illustrated in Figure 4-3) remain largely neglected. One of the most critical strategic decisions faced by managers responsible for the development of an entry strategy for a new market but usually neglected by scholars is the scale of entry. A notable exception is Mascarenhas (1997). Another important aspect relates to the sequencing of foreign market entry. The sequencing of foreign market entry in terms of entry mode has been examined (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977; Kogut and Zander, 1993; Guillen, 2003; Delios and Henisz, 2003). But the sequencing of foreign market entry in terms of entry scale still has hardly been considered.

Figure 4-3 Foreign market entry strategies

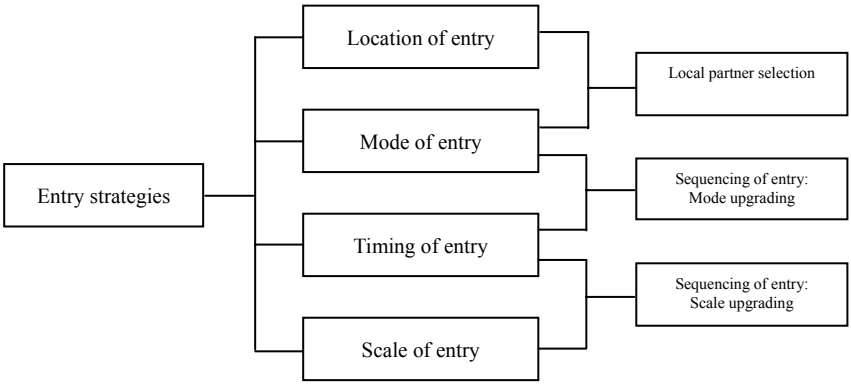


Figure 4-2 illustrates that institutional factors can be supposed to influence entry strategies and competitive advantages of firms, which in turn determine their market share achievements. In addition to proprietary assets, furthermore, institutional factors may also influence the formulation of entry strategies. Institutional factors mainly include government policies and firm organisational factors. For foreign investors, host government policies such as entry restrictions, industrial policies and other forms of interventions, can affect the formulation of their entries strategies and can strengthen or impair their competitive advantages *vis-à-vis* domestic firms. Firm organisational traits also play important roles in developing firm-specific competitive advantages. They provide the organisational basis for resource acquisition and accumulation not only at entry but also after entry, therefore bridging entry strategies and the after-entry competition process.

With regard to the dynamic process of foreign market entry, the determinants of market share achievement can be classified into two categories: at-entry and after-entry factors. The at-entry strategic and organisational factors are the specific focus of this study. The after-entry factors, mostly operational factors such as cost, pricing and advertising, are included in the 'black box' of competition process in Figure 4-2. A vital question for the studies on foreign market share achievement is which category of factors plays a key role in determining market share achievement. Lieberman and Montgomery (1998) for instance addressed this question with regard to entry order. They argued that entry order effects are

weaker than effects related to price and advertising. Empirically, by decomposing the sources of market share variation, it could be possible to measure what proportion of the variation in market share achievement can be attributed to at- and after-entry factors respectively. The more the variation of market shares can be explained by the at-entry strategic and organisational factors, the more dynamic the industry is. The static research approach of the study of market share achievement focuses primarily on the (static) after-entry factors, while the dynamic approach focuses on entry strategy or other dynamic factors such as organisational learning and technological change.

4.4 FDI, Technology Transfer and the Sectoral System of Innovation: The Dynamic Approach

The preceding two sections analyse the structural effects of FDI on domestic markets. Apart from this line of inquiry, this section addresses the dynamic effects of FDI on domestic industries. Efficiency raises and industry develops as firms enforce stricter and more cost-conscious management, reduce slack, and motivate employees to work harder, because of the underlying desire for profits and the ongoing pressure from competition. Industrial development is more the outcome of dynamic sequences than this static one: technological advance plays the central role in driving industrial growth. Since Schumpeter, there has been considerable work on the factors generating technological advance, in particular, on the factors enhancing the ability of organisation to generate innovation and technological change in turbulent environment. MNCs play the leading role in creating and disseminating technology. The technological gaps between developing and developed countries may be bridged through FDI, which can contribute to technological advance in domestic industries both by technology transfer and by promoting domestic R&D activities. In other words, FDI can not only transfer new technology to domestic industries but also help build capability and promote activities that generate new technology in host countries (The first two subsections in this section address the two aspects respectively). Prior studies that addressed the FDI effect on technological progress in domestic industries principally focus on the first concern, namely, the technology transfer from FDI. The specific impact of FDI inflows on the innovation activities has been rarely addressed.

4.4.1 FDI and Technology Transfer

Technology transfer refers to a process of acquiring technological capability from abroad (UNCTC, 1987).[41] The means used to acquire the technological capability include buy, borrow, steal, imitation, copy, adapt and beg (Meissner, 1988). According to Pattie (1987), the main methods for technology transfer are the exchange of ideas, the exchange of people and the transplant of equipment. It has been widely recognised that technological progress accounts for a relatively low proportion of growth experienced by developing countries (Shaw, 1992). Many developing countries do not have enough facilities for R&D and cannot afford to invest in R&D. It will take longer time and more money for them to

[41] The term 'technology diffusion' can also be used interchangeably with 'technology transfer'. The term of 'technology transfer' more focuses on the sender and receiver of technology, while the term 'technology diffusion' has a more general implication. See Subsection 4.1.2 for a discussion of the theory of the relationship between technology diffusion and economic growth.

generate the came technology already developed by developed countries. These constrain developing countries from undertaking R&D activities, which would result in the generation of new technologies. Therefore technology transfer is the only choice for them to obtain new technology. These countries have to adopt the mould of technology followers due to the high costs of R&D and the uneven development of technology in the world and have to adopt production procedures from developed counties after they become standardised. Rosenburg (1982) suggested that the basic advantage of being a follower is tat the recipients could develop through mere transfer of already existing technologies without having to reinvest in them. As noted in Subsection 4.1.2, growth rates in developing countries are in part explained by a catch-up process in the level of technology.

There are three basic ways through which a firm can exploit its specific technology abroad – and consequently for recipient countries to acquire that technology: 1) a firm may export products that embody the technology; 2) a firm may license its technology to a foreign firm; 3) a firm can invest abroad (OECD, 2002a). Technology transfer through FDI is the primal means for developing countries to acquire technologies due to the specific merits that are unavailable when using other methods of transfer. First, FDI involves the explicit transfer of technologies, which maybe especially beneficial for countries with low technological capabilities (Saggi, 2000). Second, FDI consists of not only technology but also an 'entire package' which includes complementary resources such as managerial know-how and human resources (UNCTAD, 1999; OECD, 2002a). Third, many technologies transferred through FDI are not available on the market. MNCs are reluctant to sell new and sophisticated technologies on the market and usually utilise them through their own foreign affiliates rather than through joint ventures or licensing agreements (Mansfield and Romeo, 1980; McFetridge, 1987). Fourth, some technologies, if available on the market, may be less costly to acquire through FDI than licensing. Fifth, the technologies are usually more efficiently exploited by MNCs that developed them than by outsiders (OECD, 2002a). Several theoretical studies on economic growth have highlighted the role of FDI in the technological progress of developing countries (cf. Findlay, 1978; Wang, 1990). Empirical studies suggested that FDI has been a major channel for the access to advanced technologies and plays a central role in the technological progress (cf. Borensztein *et al.*, 1998).

It has long been argued that MNCs must possess technological advantages before engaging in FDI activities. FDI can contribute to technology acquisition of host economies by adopting production process in and transferring knowledge to the local affiliates within the administrative framework of MNCs. In addition to this direct effect, a crucial channel through with FDI can transfer technology and promote industrial development is the technology or knowledge externalities being extended from MNCs to domestic firms. The externalities, or spillovers, from FDI are especially important for developing countries because they are usually constrained from conducting R&D, which would generate new knowledge. The main mechanisms through which FDI can enhance technological capabilities and human resources, thus affecting development is by the generation of spillovers, which have attracted considerable interests in recent empirical studies. In prior research on FDI spillovers in literature, the determinants of productivity are usually the central concern and spillovers are generally measured as the impact of the presence of foreign firms on the productivity of domestic firms (e.g. Caves, 1974; Globerman, 1979; Blomström and Persson, 1983; Blomström, 1986b; Haddad and Harrison, 1993; Kokko, 1992; Kokko, 1994; Kokko *et al.*, 1996; Aitken and Harrison, 1999; Liu *et al.*, 2000; Chung, 2001; Buckley *et al.*, 2002). These empirical studies tested the hypothesis that technological spillovers result in both higher factor productivity for local firms and in

higher factor rewards. Research on the impact of FDI on domestic firms dates back to the study of Caves (1974) who found that productivity levels are higher for domestic firms that compete in industries with a high FDI presence in Australia. Globerman (1979) also found similar evidence of positive FDI spillovers in Canada. Blomström and Persson (1983) and Blomström (1986b) found evidence that FDI has led to significant positive spillover effects on the intensive productivity of domestic firms and on the rate of growth of domestic productivity in Mexico.[42]

However, there are cases where spillovers have apparently not taken place at a considerable scale, as suggested by the studies of FDI in various European countries (Cantwell, 1989). Some studies on developing countries also reported result that questioned the potential positive spillover effects of FDI. For example, Hahhad and Harrison (1993) found that although dispersion of production is smaller in sectors with more foreign firms, FDI does not accelerate the productivity growth of domestic firms. Aitken and Harrion (1999) demonstrated that the earlier findings in support of positive spillovers are likely to be driven by the endogeneity of FDI. FDI may choose to go to better performing industries. Once the industry specific factors are controlled for there is no evidence for positive spillovers. Based on a cross-country regression analysis of 69 developing countries, Borensztein *et al.* (1998) found that the positive correlation between FDI and TFP growth holds only when a host country has achieved a minimum threshold of human capital development. The mixed results of the studies on FDI spillovers may also reflect the omission of important variables such as R&D expenditure and employees with technical degrees (Diankov and Hoekman, 2000), or due to the fact that these studies used different proxies for foreign presence (Görg and Strobl, 2001).

A possible reason for the contradictory finding of the studies on FDI spillovers may be attributed to various host country and industrial characteristics (Kokko, 1994). Kokko (1992) divided industries into two groups according to the productivity gaps between foreign subsidiaries and domestic firms. He found that productivity is more sensitive to foreign presence when the gap is small and then the two groups engage in comparable and directly competing activities. The technology transfer from MNC affiliates seem to be larger in countries and industries where the educational level of the domestic labour force is higher, where local competition is tougher, and where the host country imposes fewer requirements on the affiliates' operation (Blomström, 1992; Kokko, 1992). Kokko (1994) examined technology spillovers in Mexican manufacturing industry and found that factors related to technology alone do not inhibit spillovers, but that large productivity gaps and large foreign market shares together appear to make up significant obstacles. He argued that the industries where large productivity gaps and large foreign market shares occur simultaneously are characterised by differentiated products and/or significant economies of scale, which allow foreign affiliates to crowd out domestic firms from important segments of the market.

MNCs are recognised to be efficient vehicles for the transfer of technologies. However, domestic firms play the leading role for local learning to create spillovers. The technology spillovers from FDI is largely depend on whether foreign firms developed linkage, especially backward linkage, to local firms.[43] Hobday (1995) found a large number of situations in which initial MNC investment in East Asian newly industrialise economies

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[42] See Blomström and Wolf (1994).

[43] Some empirical evidence of backward linkage includes Behrman and Wallender (1976), Lall (1980), UNCTC (1981) and Watanabe (1983).

created backward linkages to domestic suppliers. Linkage creation by foreign affiliates in host countries depends largely on MNCs' decisions on how to source inputs (Chen, 1996). According to Rodríguez-Clare (1996), more linkages are created when the production process of an MNC uses intermediate goods intensively. In some cases local content starts at a low level and linkage with local suppliers developed over time.[44] For foreign affiliates, the ability to source or subcontract locally can reduce production costs, increase specialisation, and adapt their products better to local conditions. The trend of greater outsourcing can explain why supplier clusters are of growing important in the location decision of MNCs. For domestic suppliers, linkage may be the most important channel through which local learning takes place. Linkage can promote the adoption of new technology for local firms, which will face higher demands on the quality of the intermediates. MNCs may provide technical assistance or training to raise the quality of the intermediate products from local suppliers (Lall, 1980). McIntyre *et al.* (1996) pointed out that quality requirement seem to be the driving force for technology transfer through backward linkages. Based on a survey of empirical literature, Lall (1981, 1992) concluded that there are relatively strong linkages between import substituting MNCs and domestic firms in large economies and particularly in countries that have strict requirements of local content. Purely export-oriented MNCs, on the other hand, tend to have weaker linkages with the local industry. According to Lall, one explanation for this is that factor costs seem to be more important for the location choices of these firms than access to locally produced intermediate goods. For export-oriented MNCs that operate in complex industries such as electronics, it is found that efficiency requirements reduce the scope for domestic linkages in developing countries to practically nothing (Lall, 1981). Situation in these industries in specific developing countries changed in the 1990s, as local intermediate producers grew up and even formed supplier clusters to feed MNCs, such as what took place in Taiwan earlier and the Pearl River Delta later.

Spillovers can take place through demonstration effects, the mobility of personnel, enterprise spin-off and competition (UNCTAD, 2001). The demonstration effect means that the (successful) adoption of a technology by MNCs in the domestic market may lead domestic firms to update their own production methods. The (successful) introduction of a new technology by the MNC first-movers reduced the risk for the domestic followers to adopt the same technology and provided objectives for domestic firms to imitate, thus reducing the costs for them to adopt the technology. Technology may be transferred and disseminated in a host country through the mobility of personnel and enterprise spin-off. Employees of MNC affiliates acquire knowledge from their employers. By switching employers or setting up their own business, they spread technology. MNCs usually attempt to avoid such mobility by paying 'efficient wage', including a premium in order to keep employees from switching jobs to domestically owned competitors (Globerman *et al.*, 1994). The evidence of technology transfer through the mobility of personnel has been reported by empirical studies (Bloom, 1992; Pack, 1997). Several studies have examined the aspect of human resource management in association with FDI, which provided some insights on the effects of personnel mobility on technology transfer.[45]

Among the channels through which spillovers take place, competition plays a basic role and reinforces other mechanisms such as demonstration effects and the mobility of

[44] The case study of the Asian electronics industry demonstrated that linkage was negligible at entry, but within five years had grown substantially (Rasiah, 1994).

[45] See e.g. Katz (1987), Gershenberg (1987) and Aitken *et al.* (1996).

personnel. Wang and Blomström (1992) stressed that the more competition the MNC affiliate faces from domestic firms, the more technology they have to bring in to retain their competitive advantage and hence the larger the potential spillovers. Blomström *et al.* (2000c) found that competition spurs quicker adoption of new technology by both domestic and foreign firms. Kokko (1994, 1996) argued that the spillover effects might arise from a process of competitive interaction between foreign and domestic firms. Based on empirical studies of Mexican manufacturing, he found that spillovers took place more likely where foreign and domestic firms are in direct competition and where the technological gap between them is not too great. More evidence bearing upon this hypothesis was provided by Kokko *et al.* (1996) who found, for Mexico and Uruguay, those spillovers are difficult to identify in industries where foreign affiliates have much higher productivity levels than local firms.

4.4.2 FDI, Innovation Spillovers and the Sectoral System of Innovation

FDI may transfer not only new technologies but also the means of generating them to host countries. Only focusing on the acquisition of exogenously generated technologies would usually leave local firms utterly dependent on foreign entities to dictate the pace of domestic technological progress. By influencing the innovation capability and propensity in domestic industries, FDI may contribute to the endogenous technological progress rather than simply transferring technology exogenously generated to the host countries. This can be realised directly by the localisation of R&D activities of MNCs and indirectly by imposing structural effects on the system of innovation in the domestic countries. Not only technology but also activities generating it can be extended from MNCs to domestic agents in a process of innovation spillovers. Institutional factors play crucial roles facilitating this process. Although preceding studies that addressed FDI spillovers on firm R&D activities exist in the literature (cf. Feinberg and Majumdar, 2001), the specific impact of FDI inflows on the innovation propensity of firms – and thus of the impact of inward FDI on domestic innovation systems – has been rarely addressed.

System of innovation

Innovation processes are mediated through institutions and under constant change. One approach in which technological and institutional changes are explicitly linked is that of systems of innovation, which has been established since the seminal works of Freeman (1987), Lundvall (1992) and Nelson (1993). This approach considers innovation as based on an interactive and interdependent process among a wide variety of actors. The approach of innovation system provides a valuable conceptual framework for innovation studies. However, the lack of rigor and specificity in the approach of innovation system prevents the further theoretical development of this approach into a 'theory' of innovation.[46]

A system of innovation is a set of institutions and organisations that are responsible for generation, diffusion and adoption of innovations. Different actors, such as firms, non-firm organisations and government agencies, are the components of a system of innovation. It is widely recognised that the interaction between different organisations in an innovation system are crucial in the process of searching and acquiring knowledge that are the basis for the generation of innovations (Rothwell and Dodgson, 1991; Lundvall, 1992; Storper,

[46] The best way to overcome this obstacle is by actually using this approach in empirical research (Edquist, 2001).

1997). Firms are the core actor in an innovation system, because they are the most important organisations responsible for generation, diffusion and commercial adoption of innovations in a modern market economy. Firms do not innovate in isolation and consequently innovation has to be seen as a collective process. In the innovative process firms interact with other firms as well as with non-firm organisations such as universities, research institutes and government agencies. The approach of innovation system considers innovation process to be evolutionary and suggests that institutions shape (and are shaped by) the activities of actors and the relations between them.

A system of innovation is responsible for generation, diffusion and adoption of new technologies. The basic output of an innovation system is the new technology, which can be measured by certain outcome of R&D activities such as patents. Different actors conduct R&D activities in the innovation system to produce such output. The institutions incorporated in the innovation system must facilitate and stimulate the R&D activities. From the input perspective, certain factors are necessary for the build-up, maintenance and operation of R&D facilities. These factors include R&D expenditures, research personnel and equipment. An innovation system stimulates inputs on R&D activities, facilitates the process of R&D activities, and produces technological innovations as output. The performance of an innovation system can be generally evaluated by the amount of input and output. The components and the relations between them form the basic structure of an innovation system. Different structures of innovation systems have manifold implications for performance.

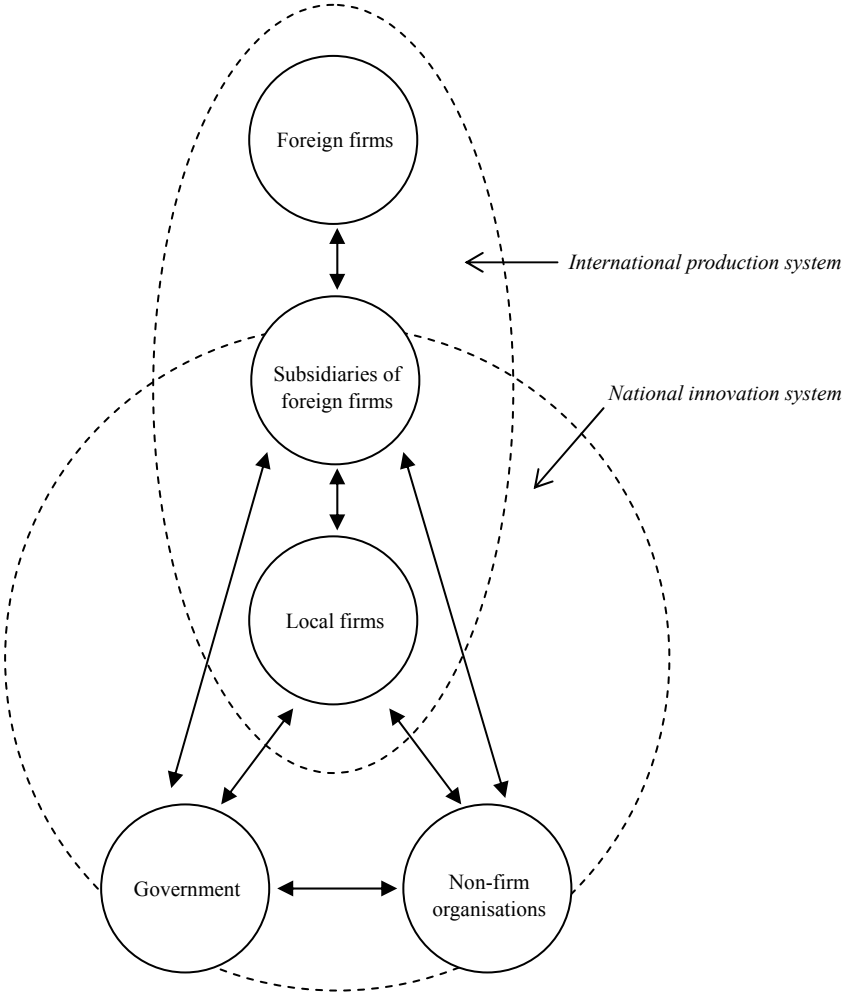
FDI and the sectoral system of innovation

The concept of innovation system can be national, regional, sectoral, or particular technology oriented. The main emphasis of the approach of innovation system was initially at national level (Freeman 1987; Lundvall 1982; Nelson, 1993). The approach of innovation system may also focuses on regions within countries (e.g. Cooke *et al.*, 1997; Braczyk *et al.*, 1998; Cooke, 2001). The Sectoral Innovation System (SIS) approach focuses on various sectors (e.g. Carlson and Stankiewicz, 1995; Breschi and Malerba, 1997; Nelson and Mowery, 1999). The SIS approach provides the best starting point for us to understand the innovation processes and dynamics in industries. The formation and evolution and of a SIS is an integral part of industrial development, which is the central concern of this chapter.

The functions of innovation systems are generally the same, but they may be conducted by different organisations in the context of different institutions. Since the mid-1980s, most countries in all regions that until then had maintained widespread restrictions on FDI undertook substantial revisions in their FDI regimes, with a view towards incorporating FDI more fully into their development strategies (UNCTAD, 1999). The changes of FDI regimes altered the institutional context dramatically in innovation systems and accordingly the structure of them, thus influencing the performance of them. To construct a basic conceptual structure for the empirical analysis of the relationship between FDI and innovation in industries, we need to expand the SIS approach by integrating FDI into the basic analytical framework. The boundary, components and the relations between the components change after we integrate FDI into the conceptual framework of innovation system (see Figure 4-4). Subsidiaries of foreign firms become an important part of the firm sector in innovation systems. Accordingly, their relations with local firms, government and non-firm organisations add the complexity of innovation systems. As MNCs increasingly relocate resources and facilities in the host economy, MNCs themselves become important players in the innovation system of host country. In the process of international production,

MNCs are shifting not only their proprietary assets, but also some functions that create these assets, such as R&D and training, within the international production system. In the cases where R&D is performed by MNCs in developing countries, significant efficiency gains have been generated, both within and across industries (Bernstein, 1989). It has been argued that R&D by MNC affiliates is better than domestic R&D expenditures because MNC affiliates have access to the aggregate knowledge base of the parent company and can use the parent firm's R&D facilities (WTO, 1998b).

Figure 4-4 National system of innovation with inward FDI



The scope of government policy within the framework of innovation system has been broadened accordingly. FDI policy becomes an important policy instrument for governments to attract technology intensive FDI and to increase innovation activities

within the national innovation system. In addition to domestic efforts, inward FDI provides a new channel to realise technological catch-up and fill the technology gaps for developing countries. As MNCs shifting their mobile assets to specific locations in developing countries, the host countries will build up their own competitiveness. Attracting MNCs' mobile assets requires host countries to improve the quality of their immobile assets. The ability to provide their own competitive advantages, or immobile assets, becomes a critical part of FDI attraction strategy for developing countries. While the complicated interactions between foreign and domestic firms are integrated into the process of industrial development, promoting technological catch-up by the means of technology transfer becomes a necessary part of the science and technology policy. Technology is not a global public good and the technology gaps between rich and poor countries are not easily overcome. In the context of globalisation of technology and innovation, successful economies are characterised by autonomous innovation activities and by the ability to absorb global technologies actively (Fagerberg and Verspagen, 2002). For developing countries, the improvement of the technological status of industries to catch up with developed countries is a major objective.

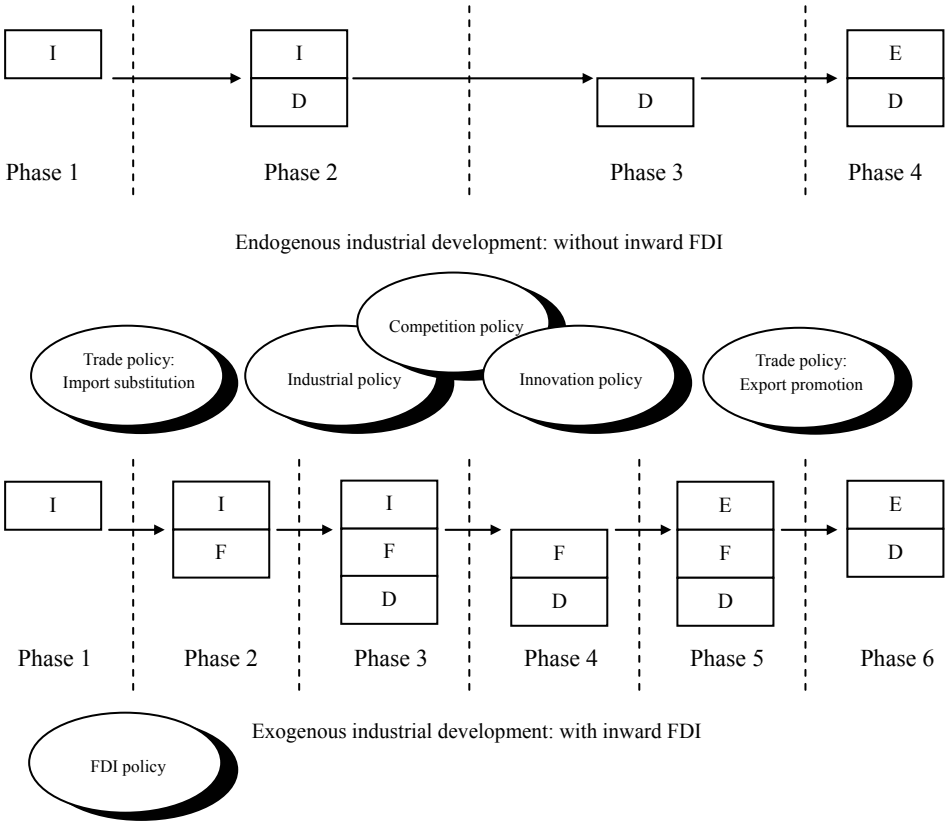
In this context, the relationship between foreign and domestic firms becomes the core factor in the structure of innovation systems because the competition, linkage and spillovers between foreign and local firms (see Figure 4-1) may significantly improve the performance of innovation systems by contributing to the intensification of innovation in host country industries. MNCs are the most active and important players in the world economy. They have been acknowledged as one of the principal vehicles for the international transfer of technology and managerial know-how. MNCs can bring modern technologies into developing countries and promote efficiency with these technologies. In some cases, MNCs may set up local R&D facilities and upgrade technologies as innovations emerge and consumer needs change. They can stimulate technical efficiency in local firms, both vertically and horizontally, by the means of spillovers and competition. The international production systems have acted as a catalyst for international technology spillovers, providing new opportunities for the formation of local innovation capabilities in developing countries. During the past two decades, international production systems have emerged with which MNCs locate different parts of production processes across the globe (see Subsection 2.3.1). The possible involvement of domestic firms in international production systems may help to improve the performance of domestic innovation systems. As the national innovation system increasingly overlaps with the international production systems, it becomes more complicated and more integrated with the outside world (see Figure 4-4).

4.4.3 Industrial Development Ladder: Interrelationship between MNCs, Domestic Firms and Government Polices

The ownership advantage of MNCs is a cornerstone of the theory of FDI. In the relevant literature, however, the view on domestic firms has been mainly on their inherent advantages associated with operating in their own environment. It should be recognised that competitive advantages of MNC affiliates may be eroded and domestic firms may develop their own advantages in the forms of proprietary technology, differentiated product and management know-how. The process during which this takes place has not been conceptualised to capture the essence of this evolutionary path of industrial development (see Subsection 4.2.2). To overcome the gap, this subsection presents a model of industrial development in which the overall structure of an industry evolves up a ladder,

which generally reflects the enhancement of the competitiveness of the industry, in particular of domestic firms. In addition to Subsection 4.3.3, this model could be considered as another extension of the traditional static approach. We define two categories of industrial development: the endogenous industrial development, which refers to industrial development without inward FDI, and the exogenous industrial development, which refers to industrial development with the spur of inward FDI. Figure 4-5 depicts the processes of these two categories of industrial development, reflected by the phases of structural change up a development ladder.

Figure 4-5 Industrial development ladder: structural upgrading and the role of government policies



Note: I-Imports; E-Exports; F-Local production of foreign firms; D-Production of domestic firms

The process of the endogenous industrial development consists of four conceptual phases of structural change, each of which is a step up the industrial development ladder. In the first phase, the domestic industry of a specific product does not exist and the domestic market is dominated by imports. In the second phase, domestic firms enter the industry and substitute a part of imports. In the third phase, domestic firms grow up, crowding out all imports and dominating the domestic market. In the fourth phase, domestic firms begin exporting to international markets. This conceptual process reflects the increasingly strengthening of the competitive position of domestic firms *vis-à-vis* their foreign counterparts. As an ideal abstraction, this model neglects the situation in which

imports and exports coexist, which is a very common phenomenon in real-world industries.

The process of the exogenous industrial development is more complex than that of the endogenous industrial development due to the involvement of foreign firms in the domestic industry. The process of exogenous industrial development consists of six phases of structural change. In the first phase, the same as in the process of the endogenous industrial development, the domestic industry does not exist and the market is dominated by imports. In the second phase, foreign firms enter and the domestic market is served by both imports and the foreign firms engaged in local production. In the third phase, domestic firms enter and take a part of the domestic market. In the fourth phase, products domestically manufactured by both foreign and local firms crowd out all imports and dominate the domestic market. In the fifth phase, domestic industry (including both local and foreign firms) begins exporting to international markets. In the sixth phase, domestic firms further grow up and crowd all foreign firms out of the domestic market. As in the conceptual process of the endogenous industrial development, this process highlights the continuous strengthening of the competitive position of domestic firms *vis-à-vis* their foreign counterparts, both as importers that serve the domestic market via exporting and as local producers that enter the domestic market through FDI. Similarly, this model neglects the situations in which imports and exports coexist. Another neglected situation is that in which inward FDI aims at exporting rather than serving domestic market. This model also neglects the size of F and D in Phase 3, 4, 5 and the different shares of foreign and domestic firms in E in Phase 5. On the basis of the underlying premise that domestic firms continuously strengthen their competitive position *vis-à-vis* foreign firms, the share of foreign firms is always decreasing.

The model depicted in Figure 4-5 provides a framework for analysing industries. First, every industry in an open economy can be identified into one of the eight scenarios generalised by the model. Thus this model can be utilised as a conceptual instrument to compare industries of one country depending on the relative size of I, D, F and E (in particular I and E).[47] Second, each phase in the two categories of industrial development constitutes one major step up the industrial development ladder and it can apply to every industry depending on where it is located on the ladder. Therefore the model provides a theoretical instrument to evaluate an industry according to its development level within the conceptual process that is logically incorporated in the model. Third, the transition from one phase to the other reflects major patterns of structural change in industries. A transition may take place alone the two lines as the arrows direct, or in a revere direction; a transition may also take place phase by phase, or jump from one phase to the phases behind the right next; a transition may even take place between the two lines of structural upgrading (for instance, when inward FDI is liberalised). Patterns of transition may generalise different schemas that have specific implications for government policies. Eight basic patterns as depicted by the arrows in Figure 4-5 are of particularly noteworthy policy concerns. For instance, in the process of the endogenous industrial development, the transition from Phase 1 to Phase 2 and Phase 3 reflects the aim of the import substitution policy and the transition from Phase 3 to Phase 4 highlights the purpose of the export promotion policy.

The difference between the two categories of industrial development lies in the role of

[47] The trade competition index, for instance, is usually used to measure the international competitiveness of an industry. Trade competition index = (E-I)/ (E+ I). Other similar indexes can be possibly developed to measure the structure of an industry by taking I, D, F, E into account.

foreign firms. Participation of foreign firms, especially MNCs, can act as a 'catalytic promoter' to the development of domestic industries. In addition to domestic efforts that are highlighted by the Japanese and South Korean model, inward FDI provides a new force to develop the domestic industry. The evolutionary process of technological catch-up and industrial development accelerates with the 'catalysis' of FDI and the complicated interactions among foreign firms, domestic firms and government are integrated into this dynamic process. Of critical importance for developing countries is that MNCs can promote industrial development by transferring technology and managerial know-how. MNCs can bring modern technologies into the industries of developing countries. In addition to technology, MNCs also possess advanced managerial know-how and can transfer this to host countries. The transfer of proprietary assets to host countries offers significant benefits to industrial development and may help developing countries to promote their competitiveness. Proprietary assets reside in the firms that create them and they cannot be easily copied or reproduced by others because the cost can be very high, particularly in developing countries. And, usually, MNCs are reluctant to sell their most valuable proprietary assets to unrelated firms that can become competitors or 'leak' them to others (Lall, 2000). In a world of intensifying competition and accelerating technological change, therefore, the role of MNCs for the technological advancement of developing countries is crucial.

Furthermore, MNCs can also provide access to export markets, both for existing activities and for new businesses. MNCs play a dominant role in high technology production and export. Their participation becomes almost a necessary condition for developing countries to enter into this most dynamic area of innovation and to build up competitiveness (UNCTAD, 2002). A number of developing countries, including China, are among the principle beneficiaries (UNCTAD, 2002). The experience of them has demonstrated the effectiveness of MNC participation on the promotion of innovation and competitiveness in technology sector for developing countries. However, this conclusion was generally based up the analysis of the aggregate data of exports. Although UNCTAD distinguished primary products and manufactures (including resource-based, low-technology, medium-technology and high-technology products), the overall trend of each category can only capture the net result and different performance of various industries may generate valuable insights and more practical guidance for policies. This empirical gap will be addressed in Part III.

Behind the ideal process of industrial development summarised by the model are the enhancement of local technological capability and the increasing competitiveness of domestic firms as well as the domestic industry as a whole. The development of domestic enterprise is a policy objective of most countries. Upgrading capabilities of domestic firms yield greater benefits than just receiving the technology and managerial know-how from MNCs. As discussed in the last section, the level of local capabilities determines the benefits of spillovers from MNCs. Countries that have relatively stringent restrictions on inward FDI and force MNCs into some kinds of partnership with local firms seem to obtain relatively little spillovers. The reason is that MNCs are more reluctant to bring new and sophisticated technologies to countries where they have less control over their proprietary knowledge (Blomström and Sjöholm, 1998). In the conceptual process of industrial development illustrated in Figure 4-5, domestic firms continuously develop their competitive advantages. This process of advantage development drives sustainable industrial growth. However, this ideal process of industrial development is not easy to attain in reality. A primal necessity is a policy framework to facilitate and accelerate the process, which is the essence of national strategy to promote industrial competitiveness.

Economic internationalisation has influenced both the location advantages of host countries and the ownership advantages of MNCs. They accordingly adjusted their strategies and policies to the new context (see Subsection 2.3.1). As argued in Subsection 4.1.3, the potential costs of inward FDI and the market failures in the process of FDI provide a case for government policies. In developing countries, market mechanism is not well functioning due in part to the lack of market-supporting institutions. There is a large space for government policies, but not in the earlier version of widespread intervention and strict protection. In the past, most governments of developing countries used ownership restraints, operation restrictions and performance requirements to direct MNCs into desired directions. Since the mid-1980s, these policy measures have been increasingly difficult to use in the new investment and trade policy framework. Governments now focus more on improving the environment in which MNCs operate – macroeconomic management, infrastructure provision, human capital, competition policy, and the like (UNCTAD, 1999). These ownership advantages of MNCs mean that they can provide assets to domestic industries that other firms cannot – in case that the host country can induce them to invest and to transfer their advantages. MNCs, like domestic firms, respond to business environment and government policies. However, MNCs are more flexible than domestic firms to escape the constraints of policy environment. They can move their business activities abroad more easily, or use internal channels such as transfer pricing that not open to domestic firms (UNCTAD, 1999). Therefore, governments of developing countries are now increasingly competing with each other to produce their specific location advantages, or immobile assets, in order to attract MNCs' investment (Narula and Dunning, 1999).

In addition to FDI policy, the trade policies characterised by both import substitution and export promotion can be utilised to promote the development of industries, but at different stages of industrial development.[48] Both categories of trade policies can be used in the process of endogenous as well as exogenous industrial development. For the latter, FDI policy becomes a critical concern for industrial development in addition to trade policy. Furthermore, the roles of industrial policy, innovation (science and technology) policy and competition policy are important throughout the whole process of industrial development. Figure 4-5 depicts the possible usage and combination of different policy instruments in the promotion of industrial development.

There is no universally optimal policy framework for promoting industrial development. Policies should fit particular conditions of countries and industries at a particular moment and evolve or adjust according to the changing environment. With regard to an effective FDI policy, the challenges for developing countries stem from two respects. First, to implement polices and to establish relevant institutions that help improve investment environment and attract inward FDI, but to avoid engaging 'incentive wars' taking place both between counties and between localities within a country. Secondly, to implement polices and to establish relevant institutions that help them benefit from inward FDI as much as possible and meanwhile minimise the costs of FDI. By facing these challenges actively and properly, developing countries can establish a policy framework to reap the benefits of FDI, to tackle the negative effects of FDI and to promote long-term sustainable industrial development.

The interface between competition policy and FDI (see Subsection 3.4.4) reflects a

[48] Here 'import substitution' does not mean the traditional trade regime, which relies on tariffs and quotas on trade to restrict import and protect insufficient domestic firms. Rather, it means the promotion of the development of domestic firms in the industries that are insufficient to supply the domestic markets.

policy solution for the market failures in the FDI process. The analysis of market failures in the FDI process in terms of the abuse of market dominance (see Section 4.1.3) further highlights the potential necessity of competition policy. Competition is one of the fundamental mechanisms through which inward FDI promote economic development (see Subsection 4.1.2). The benefits of FDI can hardly be achieved without a well-functioning market. As we noted earlier, the dynamic effects of FDI on enhancing technological capabilities and human resources depends upon the interaction between governments, firms and markets. Spillovers can take place through many channels, among which competition is the basic one. There is risk of 'crowding out' domestic firms by FDI. If there are competitive markets, then although in the short run the productivity of domestic firms may be reduced, but in the long run, the intensified competition induced by FDI may force inefficient domestic firms to exit and surviving efficient firms to improve their performance, leading to the overall improvement of social welfare. To maximise the benefits of FDI, an effective competition policy or other institutional arrangements that can fulfil the similar function is needed to protect and promote market competition.

The extent of dynamics process of industrial development depends on the interaction of the following factors: 1) the development of domestic markets, 2) the strategies and resources of the MNC, 3) the capabilities of domestic firms, and 4) government policies. The more competitive and outward-oriented the regime, the more dynamic is the technology upgrading process (Lall, 2000). Government policy cannot substitute the basic function played by market mechanism in resource allocation and should be based on it. Policy intervention should target at market failure not market itself. It is appropriate to reduce government regulation within the market: to simply abolish obstacles in the way of FDI, to minimise business costs and to leave resource allocation to the market. Moreover, MNCs' activities provide beneficial effect to economic development but do not substitute for domestic efforts. The proprietary assets, or ownership advantages MNCs, can bring may complement a country's own capabilities and provide some missing elements for national competitiveness. MNCs not only provide access to a complex package of tangible and intangible assets that vary over time and from one host country to another, they also catalyze domestic investment and capabilities. Thus the complementary role from MNCs is very valuable and sometimes indispensable. Nevertheless, to put the growth potential into reality and to build up national competitiveness in a sustainable manner, MNCs are among the participants and can only play a complementary role. Efforts from domestic firms are vital. It should be recognised that FDI complement domestic efforts to achieve development goals, thus FDI policies could not be pursued in isolation. Instead, they should be inextricably linked with policies in the core areas of economic development. Although linkage promotion is not a new policy issue for developing countries, it deserves renewed attention when considering the way to tap the benefits of FDI to development (UNCTAD, 1999).

Part III Empirical Study

The Chinese model of economic development has been materialised at the industry level on the basis of the rapid development of numerous Chinese industries. This part seeks to explore the impact of inward Foreign Direct Investment (FDI) on the development of China's manufacturing sector and to explain how FDI has influenced industrial development through the competition mechanism, based on a general assessment in Chapter 5 and in-depth investigations into two specific industries in Chapter 6 and Chapter 7, both of which are organised in a similar manner and present a matched pair of cases. The theories reviewed and extended in Part II and the analytical framework established thereby provide the theoretical underpinning for empirical studies in this part. The two case studies present both the evolutionary process and the *status quo* of specific industries, comment on the successes and failures in the development processes of these industries, and note the opportunities and challenges for future developments. These empirical chapters analyse both the positive impacts brought by FDI through its structural as well as dynamic effects and the associated costs – to what extent markets have been 'given' to Multinational Corporations (MNCs) in the expense of domestic firms, without efficiency progress and possibly with the tolerance of the dominant positions and anticompetitive practices of MNCs. Multiple dimensions of industrial development are investigated in order to provide an overall assessment of the FDI impact on industrial development with particular attention to the FDI effect on competition and its consequences.

The 'two-case' case study approach presents a comparison between two paths of industrial development in two Chinese manufacturing sectors: 1) the automotive sector, specifically the passenger car industry; 2) the electronics and Information and Communications Technology (ICT) sector, specifically the telecom equipment industry. The Chinese government has identified both sectors as 'pillar industries'. Both have attracted a large amount of FDI inflows and have strong MNC presence. However, the two sectors experienced different performance of industrial development during the reform period largely due to different competitive situations, which were mainly determined by different patterns of government policies. In the passenger car industry, a key segment in the automotive industry, incumbents have been shielded from competition by the government-imposed impediments to both market entry and import. While in most segments of the electronics & ICT industry, an 'open competitive' model of industrial development has been adopted. The patterns of industrial policies can generally be classified according to the degree of entry restrictions and trade barriers. The consequences of these two patterns of industrial policies, particularly their implications for the FDI

impact on industrial development, are analysed in Chapter 6 and Chapter 7. With regard to the methodological concerns of case study, the second case can be considered as an experiment duplicating the exact key conditions (the status of 'pillar industry' and the strong presence of MNCs) of the first case while altering another key condition (patterns of industrial policies). The contrasting results reflect the causal relationship between the orientation of industrial policy and the FDI impact on industrial development.

5 FDI, Competition and the Development of Chinese Industries: An Overview

The rapid growth of China's industrial sector during the reform period has paralleled dramatic changes in the structure of ownership (see Subsection 2.1.2). Despite their shrinking share of industrial output, State-owned Enterprises (SOEs) have retained a 'backbone' position in the industrial sector. However, the non-state sector has already accounted for two thirds of the total industrial output. In the first phase of China's economic transition, industrial development was largely driven by the rapid expansion of Township and Village Enterprise (TVEs). Since the beginning of the second phase of economic transition, Foreign Invested Enterprises (FIEs) have become a central force that reshaped China's industrial landscape. Large-scale inflows of Foreign Direct Investment (FDI) have introduced an important competitive force into domestic markets and the new competition injected from abroad has conferred a strong impact on the development of Chinese industries. Meanwhile, the development of the manufacturing sector has also been strongly influenced by China's industrial policy regime selectively supporting the development of 'pillar industries', which include machinery, electronics, petrochemical and automotive industries, and the growth of high-technology industries, which includes information technology, biological engineering, new materials, and so on. Industrial guidance of FDI and various restrictions imposed on business practices of FIEs can be seen as important instruments of industrial policy in China. This chapter aims to generally document the impact of FDI on competition and industrial development in Chinese industries, with consideration to the specific context of Chinese industries, which are characterised by the strong presence of a state sector and the prevalence of government intervention. This chapter provides contextual and methodological foundation for further empirical investigations into specific industries in the next two chapters. This chapter also reviews the empirical literature that investigates the relationship between FDI and China's industrial development, focusing on the intra- rather than inter-industry impact of FDI. This means that the impact of inward FDI on recipient industry rather than upstream and downstream industries is the central concern, which is associated with the focus on the mechanism of competition rather than spillovers and linkage, through which FDI may also influence the performance of domestic firms and industries.

This chapter is organised as follows. Section 5.1, which documents the distribution of FDI in Chinese industries, covers FDI inflows both in different sectors in the Chinese economy and particularly in different industries in the industrial sector. Section 5.2 generally assesses the impact of FDI on competition and industrial development in China. Extending from the general assessment of the FDI impact on industrial development in the last section, Section 5.3 discusses the methodology of technical econometric works on the relationship between FDI and industrial development, highlighting the relevance of the approach of longitudinal case study. This section also provides methodological guidelines for the empirical studies in the next two chapters.

5.1 FDI in Chinese Industries

Subsection 2.3.2 has addressed the overall trends and structural features of inward FDI in China, such as entry modes, project scale, geographic distribution and home-country sources. In terms of industrial distribution, we have only mentioned the total amount of FDI in China's industrial sector. In order to generally assess the effects of FDI on the development of China's manufacturing industries, this section documents in detail the industrial distribution of FDI in Chinese industries, focusing on the manufacturing sector. The role of government policy in guiding the industrial orientation of FDI projects is also investigated. A large part of China's FDI has been from the ethnically Chinese economies – Hong Kong, Taiwan, Macao and Singapore, although Multinational Corporations (MNCs) from Western countries and Japan taking increasing share (see Subsection 2.3.2). What has been the difference between these Overseas Chinese and non-Chinese FDI in terms of their contribution to industrial development? This section also addresses this issue, mainly based on the review of a number of important empirical studies.

5.1.1 FDI in Different Sectors

FDI in China is principally directed to the industrial sector: 75.4 percent of projects and 66.1 percent of the contractual amount of FDI has been focused on industry until 2002. Within the industrial sector, the main focus has been the manufacturing sector, although a notable amount of FDI has also been directed towards the mining and construction sector. Until the end of 2002, 927 FIEs had been established in the mining sector and US$ 4.05 billion had been invested. The percentage of FDI projects and contracted amount in the construction sector was 2.3 and 2.7 percent respectively. The service sector has totally accounted for 21.7 percent of projects and 32.1 percent of contractual amount until 2002. The agricultural sector has accounted for 2.9 percent of projects and 1.9 percent of contractual amount until 2002 (see Table 5-1).

Table 5-1 FDI inflows in different sectors as of 2002

Sector	*Number of projects*	*Percentage*	*Contractual amount (US$ billion)*	*Percentage*
Agriculture	12,217	2.88	15.76	1.90
Industry	319,923	75.42	546.86	66.05
Service	92,056	21.70	265.45	32.05
Total	424,196	100.00	828.07	100.00

Source: Ministry of Foreign Trade and Economic Cooperation (MOFTEC) FDI Statistics.
Note: Industry includes mining, manufacturing, utilities and construction.

Within the service sector, FDI inflows have been largely concentrated in the real estate and so-called 'social services' (see Table 5-2).[1] FDI in the industries of real estate and social services has accounted for 21.9 percent of the total contractual amount of FDI inflows into China. Other industries within the service sector that has attracted over 2 percent of the total FDI inflows include domestic trade (whole sale and retail) and

[1] The FDI statistics provided by MOFTEC (MOC) does not provide detailed composition of the accumulative amount of FDI in different industries as of 2002. The 'social service' industries here include a broad spectrum of services and utilities except for those listed separately in Table 5-2. Please compare with the more detailed data for 2003 in Table 5-3.

transportation & warehousing. These two loosely defined industries have taken 3.2 and 2.3 percent of the total FDI inflows respectively. Real estate is one of the industries that have attracted a large amount of FDI. According to the Ministry of Commerce (MOC) (2003), 5185 foreign-invested real estate developers had been established until the end of 2002. The contractual value of FDI had become US$ 34.5 billion and the realised value of FDI had become US$ 32.6 billion.[2]

Table 5-2 FDI inflows in the service sector as of 2002

Sector	*Number of projects*	*Percentage*	*Contractual amount (US$ billion)*	*Percentage*
Real estate and social services	45,490	10.72	181.08	21.87
Whole sale, retail and food services	21,358	5.03	26.46	3.20
Transportation, warehousing and post	4,729	1.11	18.80	2.27
Hygiene, sports and social welfare	1,119	0.26	5.17	0.62
Scientific research and services	2,933	0.69	3.31	0.40
Education, culture and media	1,412	0.33	2.30	0.28
Others	15,015	3.54	28.33	3.42
Service sector total	92,056	21.70	265.45	32.05

Source: MOFTEC FDI Statistics.

In 2003, manufacturing sector remained the main target of FDI inflows, with approximately 70 percent of the number of projects and the amount of contractual as well as realised value of FDI (see Table 5-3). Real-estate sector accounted for 3.8 percent of all FDI projects and 9.8 percent of the realised amount of FDI inflows. The third largest target of FDI inflows was social services, which attracted 10.3 percent of all FDI projects and 5.9 percent of total FDI inflows. Domestic trade (whole sale and retail), transportation and warehousing, and construction remained the major targets of FDI inflows within the service sector, totally hosted 7.6 percent of total FDI projects and 4.9 percent of the realised amount of FDI inflows. FDI inflows to China's financial sector increased but still took an insignificant share of the total FDI inflows.

Table 5-3 Sectoral composition of FDI inflows in 2003

Sector	*Number of projects*	*Percentage*	*Contractual amount (US$ billion)*	*Percentage*	*Realised amount (US$ billion)*	*Percentage*
Agriculture, forestry and fishing	1,116	2.72	2.28	1.98	1.00	1.87
Mining	211	0.51	0.66	0.57	0.34	0.64
Manufacturing	29,281	71.28	80.75	70.17	36.94	69.03
Construction	396	0.96	1.68	1.46	0.61	1.14
Transportation, storage and post	506	1.23	5.01	4.35	0.87	1.63
Whole sale, retail and food services	2,207	5.37	2.38	2.07	1.12	2.09
Finance and insurance	23	0.06	0.32	0.28	0.23	0.43
Real estate	1,553	3.78	9.11	7.92	5.24	9.79
Social services	4,242	10.33	7.04	6.12	3.16	5.91
Hygiene, sports and social welfare	85	0.21	0.27	0.23	0.13	0.24
Education, culture and media	70	0.17	0.28	0.24	0.06	0.11
Scientific research and services	558	1.36	0.75	0.65	0.26	0.49
Total	41,081	100.00	115.10	100.00	53.50	100.00

Source: MOC.

[2] For the difference between contractual and realised amount of FDI, see footnote 63 in Chapter 2.

5.1.2 FDI in China's Manufacturing Sector

The manufacturing sector has accounted for approximately 70 percent of China's total FDI inflows. The distribution of FDI in various industries in China's manufacturing sector is reflected both by the absolute level of FDI inflows in industries and by the relative degree of FIE presence in them. Accumulated amount of FDI inflows in a number of important industries has been published in a recent report (MOC, 2003, in Chinese) and is summarised in Table 5-4. Electronics and telecom equipment, petroleum chemicals, building materials, pharmaceuticals, automotive industry and beverages are the industries that have attracted the largest amount of FDI in China's manufacturing sector.

Table 5-4 FDI inflows in selected manufacturing industries as of 2002

Sector	*Number of projects*	*Contractual amount (US$ billion)*	*Realised amount (US$ billion)*
Automotive	1,256	4.57	4.47
Beverages*	1,137	3.38	2.49
Building materials**	3,967	10.06	6.37
Chemical fibber	352	1.64	1.27
Electricity	384	4.57	6.97
Electronics and telecom equipment***	9,409	47.87	28.06
Household and personal products	326	0.43	0.40
Nonferrous metals	651	3.00	1.33
Papermaking and paper products	285	1.68	1.91
Pharmaceuticals	1,587	5.41	3.63
Petroleum chemicals	6,708	20.28	12.72
Steel	273	4.18	1.43
Tire	57	0.68	0.92

Source: MOC (2003, in Chinese).
Note: 1) * Including dairy products, liquor, beer, wine, soda drinks, mineral water, juices, solid drinks, and other soft drinks. 2) ** Including cement, plate glass, building ceramics, hygiene ceramics, and so on. 3) *** Not including the industries of computer, mobile telephony and integrated circuit.

The most latest and comprehensive data on China's industrial sector has been from the Third National Industrial Census, which was conducted by the National Bureau of Statistics of China (NBSC) in 1995.[3] This industrial survey adopted an industrial classification standard similar to the International Standard Industrial Classification (ISIC) and included totally 28 two-digit industries and 191 three-digit industries, which included 19 mining, 165 manufacturing and 7 public utilities.[4] According to the Third National Industrial Census, the contribution of FIEs to Chinese two-digit manufacturing industries in terms of their share of value-added ranged from 0.6 percent in tobacco to 65.0 percent in the electronics and telecom equipment industry (see Table 5-5).[5]

[3] The data were published in 1997. The National Industrial Census has been conducted every ten years by the NBSC. The previous census was conducted in 1985, and the next census in 2005 is being prepared and will cover enterprises in all sectors rather than only industrial sector.

[4] The national standard on industrial classification, 'National Economy Industrial Classification and Codes', (GB/T 4754) was first formulated in 1984. The first revision of the classification (GB/T 4754-1994) was in 1994. The second revision of the classification (GB/T 4754-2002) was in 2002. The new version industrial classification divides the industrial sector into 30 two-digit, 169 three-digit, and 482 four-digit industries.

[5] The electronics and telecom equipment industry has been renamed 'Telecom equipment, computer, and other electronic equipment' industry in the new version of industrial classification standard.

Table 5-5 FIE percentage of value-added in two-digit manufacturing industries, 1995 and 2000

Rank	*Industry*	*FIE percentage 1995*	*FIE percentage 2000*
1	Electronics and telecom equipment	65.0	65.4
2	Garments and other fabric products	53.1	48.8
3	Leather, fur and eiderdown products	51.7	54.6
4	Cultural, education and sports products	48.6	59.5
5	Instruments and office machinery	43.5	49.4
6	Plastic products	40.4	44.3
7	Furniture manufacturing	36.1	43.9
8	Food manufacturing	34.8	41.9
9	Electric equipment and machinery	32.9	34.2
10	Pharmaceuticals	30.6	24.6
11	Metal products	30.5	34.8
12	Timber processing	28.1	28.0
13	Rubber products	27.7	35.6
14	Transportation equipment	26.8	30.8
15	Beverages	23.4	27.9
16	Textile industry	22.9	20.7
17	Food processing	22.1	20.7
18	Printing and record medium reproduction	21.5	29.4
19	Papermaking and paper products	19.2	28.8
20	Chemical fibber	19.1	39.3
21	Ordinary machinery	18.1	22.2
22	Raw chemical materials and chemical products	15.7	21.5
23	Non-metal mineral products	13.4	17.3
24	Special-purpose equipment	12.2	14.9
25	Non-ferrous metals	10.8	11.2
26	Ferrous metals	5.2	4.7
27	Petroleum processing	0.8	5.7
28	Tobacco	0.6	/
	Simple average*	27.9	31.9

Source: Third National Industrial Census, Jiang and Li (2002, in Chinese) and NBSC.
Note: * Not including the tobacco industry.

Based on an analysis of foreign presence in three-digit industries in China's industrial sector in 1995, we can find that the industries which has attracted highest share of foreign capital were low-technology industries, such as toys and textile, and electronics and Information and Communications Technology (ICT) industries, such as computer, telecom equipment and office machinery. Table 5-6 lists the top 15 three-digit manufacturing industries, which have the highest FIE percentage of capital or employment. This table also shows the share of the investment of Overseas Chinese and non-Chinese foreign investors in total investment in each industry.[6] As illustrated in Table 5-6, FDI from overseas Chinese was mainly concentrated in low-technology industries, such as toys, food processing and textile, while non-Chinese FDI projects had a large presence in high-technology industries especially in the electronics and telecom equipment industry.

[6] See Buckley *et al.* (2002).

Table 5-6 FIE percentage of capital and employment in 1995: the top 15 industries

Industry	*FIE percentage of capital*	*FIE percentage of employment*	*Overseas Chinese percentage of investment*	*Non-Chinese percentage of investment*
Other electronic devices	58.1	45.5	22.3	25.4
Office machinery	56.6	38.1	15.8	35.9
Toys	55.9	62.4	39.7	5.8
Computer	48.0	43.3	15.8	21.7
Cakes and sugar confectionery	46.6	22.1	21.1	12.7
Household plastic grocery	45.9	36.3	26.8	7.7
Other food processing	44.2	37.4	21.1	13.6
Telecom equipment	41.7	30.8	10.1	17.3
Electronic devices	41.2	31.8	19.1	16.1
Clocks and watches	40.6	28.1	25.4	4.1
Fishing tools and materials	40.5	37.9	27.3	9.1
Garments	39.8	47.7	23.9	9.8
Household electronic apparatus	39.3	42.7	19.0	17.2
Other textile products	39.1	25.8	27.8	13.8
Household chemical products	37.2	16.5	7.2	25.4

Source: Buckley *et al.* (2002).
Note: Due to the difference in statistic scope, the registered capital is not equal to the amount of investment.

Five years later, the FIEs' position in Chinese industries further strengthened (see also Table 5-5). In total 27 two-digit manufacturing industries (not including tobacco industry in which FDI has been not permitted), the FIE percentage of value-added increased in 21 industries. The average FIE percentage of value-added in these 27 industries increased from 27.9 to 31.9 percent. The contribution of FIEs to China's two-digit manufacturing industries in 2000 in terms of their share of total assets, sales and value-added is illustrated in Table 5-7. In China's industrial sector, FIEs accounted for 24.0 percent of total value-added in 2000. FIEs utilised their assets more efficiently: they occupied 10.2 percent of total assets and generated 26.8 percent of total sales of the industrial sector in 2000. FIEs has presented in Chinese industries with different degree of significance. The industries in which FIEs have the largest presence in terms of their share of total assets includes: 1) electronics and telecom equipment, 2) cultural, education and sports products, 3) leather, fur and eiderdown products, 4) garments and other fabric products, 5) furniture manufacturing, 6) instruments and office machinery, 7) plastic products, 8) metal products, 9) food manufacturing, and 10) timber processing (see Table 5-7). Foreign presence in terms of sales and value-added showed a similar pattern. The ten industries ranked by the FIE percentage of assets were approximately the same industries in which FIEs accounted for the highest share of assets and value-added.

Table 5-7 FIE percentage of total assets, sales and value-added in 2000: the top 10 industries

Industry	*FIE percentage of total assets*	*FIE percentage of total sales*	*FIE percentage of value-added*
Electronics and telecom equipment	37.44	72.21	65.39
Cultural, education and sports products	34.69	60.46	59.46
Leather, fur and eiderdown products	34.01	57.26	54.62
Garments and other fabric products	28.08	49.05	48.83
Furniture manufacturing	26.76	45.96	43.88
Instruments and office machinery	24.08	57.48	49.39
Plastic products	22.11	43.99	44.32
Metal products	21.52	39.27	34.82
Food manufacturing	17.60	40.81	/
Timber processing	17.44	32.76	27.99
Total industrial sector	10.18	26.79	23.98

Source: Jiang and Li (2002, in Chinese).

FIEs were more profitable than domestic firms: based on 10.2 percent of total assets and 26.8 percent of total sales, they accounted for 29.2 percent of total profits of the industrial sector in 2000 (see Table 5-8). The industries in which FIEs had the highest share of profits are almost the same as those in which FIEs contributed most to total sales and value-added (see Table 5-7). However, FIEs in the transportation equipment industry is apparently much more profitable than in other industries. With 30.9 percent of total sales and 30.8 percent of value-added, the FIEs in China's transportation equipment industry earned 65.6 percent of profits.

Table 5-8 FIE percentage of profits in 2000: the top 10 industries

Industry	*Total profits (RMB¥ billion)*	*Profits of FIEs (RMB¥ billion)*	*Percentage of FIEs*
Electronics and telecom equipment	49.71	35.02	70.45
Instruments and office machinery	3.82	2.57	67.18
Transportation equipment	19.48	12.79	65.64
Cultural, education and sports products	2.28	1.29	56.38
Garments and other fabric products	8.64	4.35	50.37
Plastic products	7.08	3.43	48.46
Leather, fur and eiderdown products	3.49	1.62	46.39
Chemical fibber	6.35	2.92	45.88
Food manufacturing	5.48	2.40	43.88
Ordinary machinery	9.68	4.21	43.46
Total industrial sector	439.35	128.25	29.19

Source: Jiang and Li (2002, in Chinese).

5.1.3 Guiding the Industrial Orientation of FDI: The Role of Industrial Policy

Industrial policy is the government efforts to alter industrial structure to promote productivity-based growth (World Bank, 1992). Industrial policy acts as a substitute for the allocative function of the market and may be justified by the existence of some forms of market failure in industries. As suggested in Subsection 1.4.2, industrial policy has been asserted the central factor behind the rapid industrialisation of East Asian economies, such as Japan, South Korea and Taiwan (Johnson, 1982; Amsden, 1989; Wade 1990). The experience of these countries highlighted the critical role of industrial policy and demonstrated that governments can use an array of incentives to encourage private investment in strategic industries. The government identified the strategic industries that are believed to be critical for economic development and directed resource allocation

towards selected industries. Industrial policy encourages the development of industries that would not have taken place merely depending on firm response to market signals.

Like in Japan and South Korea, industrial policy has played an important role for economic development and industrialisation in China. In the 1989 'Decision on the Gist of Current Industrial Policy' issued by the State Council, a list of industries and products was identified as focal point of industrial policy. The industries and products include: 1) agriculture, 2) selected industries in light industry and textile industry, 3) infrastructure and basic industries, 4) machinery and electronics industries, 5) high-technology industries, and 6) manufactured products for exports. The document also identified products that need to be suppressed and controlled. In 1991, the People's Congress approved the 'Eighth Five-Year Plan' (1991-1995) and the 'Ten-Year Plan for National Economic and Social Development' (1991-2000). The 'Ten-Year Plan' emphasised the strengthening of agriculture, basic industries and infrastructures and called for the efforts to restructure and upgrade the manufacturing industry. The 'Eighth Five-Year Plan' stressed the development of specific sectors, which were general in line with the 1989 decision. In 1994, the State Council issued the 'Outline of State Industrial Policy in the 1990s', which provided the basic framework for China's industrial policy regime. In addition to the continuous emphasis on agriculture, basic industries and infrastructures, the outline stressed the development of pillar industries, which included the machinery industry, the electronics industry, petroleum processing, automotive industry and construction. The outline prescribed that national industrial policy is decided by the State Council and the State Planning Commission (SPC) (renamed the State Development Planning Commission, SDPC, after 1998 and the National Development and Reform Commission, NDRC, after 2003) is the government agency which is responsible for the promulgation and harmonisation of national industrial policies. Different industrial policies were promulgated by the SPC, coupled with other relevant government agencies. The implementation of different industrial policies were carried out by the administrative agencies of different industries and coordinated by the SPC. The government agencies responsible for economic management (such as planning, public financing, central banking, taxation, international and domestic trade, tariff, securities market regulation, administration of industry and commerce, state-owned asset management) should coordinate with the SPC before adopting any important policy measures which would influence industrial development. On the basis of the 'Outline of State Industrial Policy in the 1990s', the former SPC promulgated a series of industrial policies for a number of industries.

In 1996, the People's Congress approved the 'Outline of the Ninth Five-Year Plan (1996-2000) for National Economic and Social Development and the Long-term Target for the Year 2010'. The plan stressed the needs to promote the growth of the pillar industries, to develop the high-technology industries, to restructure the light and textile industries, and to actively increase the proportion of the service sector in the national economy. The plan reasserted the development of pillar industries, which includes machinery, electronics, petrochemical, automotive and construction. The plan also emphasised the progress of high-technology industries, which includes information technology, biological engineering, new materials, nuclear, aerospace, aviation, ocean engineering, and so on. The plan emphasised the importance of the informatisation of the national economy and the rapid development of information infrastructures. The plan specified the focus of the development of the electronics & ICT industry and emphasised integrated circuit, new-type components, computer and telecom equipment, which would provide information systems and equipment for the development of the economy and the society.

The research and development of the new generation integrated circuits was particularly emphasised. In line with this strategy, a series of new polices have been implemented to support the development of the ICT sector, particularly telecom equipment, integrated circuit and software (see Subsection 7.1.2 for details). In the 'Outline of the Tenth Five-Year Plan' (2001-2005) approved by the People's Congress in 2001, the development of high-technology industries was further emphasised. Stressed was the breakthrough and leap-forward in specific areas, such as high-speed broadband information network, Deep Sub-Micron (DSM) integrated circuit, biological engineering, new-type jet passenger airplane, new-type rocket, and so on. The industrialisation of digital electronic products, new-type monitors, fabric electronic materials and devices, modernised Chinese medicine and satellite application was also stressed. On the basis of the 'Outline of the Tenth Five-Year Plan', the Ministry of Information Industry (MII) also formulated the 'Outline of the Tenth Five-Year Plan for Information Industry'.

The objective of industrial policy can be realised through a broad package of policy instruments including import protection, export promotion, FDI restrictions, performance requirements, tax incentives and other measures to promote the development of specific industries. Both price mechanism and non-price means can be utilised to encourage firms to take actions that can promote rapid industrialisation. A broad range of incentives is available: financial support, direct subsidies, favourable tax treatment, and so on. Different from the 'macroeconomic industrial policy', the industrial policy we discussed here principally relies on industry-oriented policy measures. Other policy measures targeted at specific firms, regions and economic aspects can also be considered as instruments of industrial policy. The types of industrial policy instruments used by developing countries have changed greatly, especially since the mid-1980s, due to restrictions from multilateral and regional agreements, as well as domestic regulatory reform. As a transition economy in which the legacy of the planned economy still exists, the state ownership is still significant, and a strong government persists, China has a large number of policy measures to implement its industrial policy. As summarised by Zhang and Long (1997), the Chinese government has relied on six types of industrial policy instruments: 1) central government planning and financing, 2) empowering key industries with direct financing, 3) preferential tax rates and favourable financing for targeted industries, 4) infant industry (trade) protection, 5) pricing policies, and 6) administrative measures. Lu (2000) added two other additional policy instruments, namely, the guidelines to channel FDI into desired industries and various restrictions imposed on business practices of FIEs. The business restrictions on FIEs include local content requirements, prohibition of running distribution network, screening, as so on. The former has direct effects on the development of the domestic upstream industries, while the latter guarantees the domestic control of the downstream, distribution sector. The array of industrial policy instruments summarised by Zhang and Long (1997) and Lu (2000) neglects some specific factors and does not elucidate the relationship between industrial policy and other relevant policies. Table 5-9 summarises the policy instruments of China's industrial policy. As demonstrated in this table, the planning mechanism, public finance, trade policy, FDI policy, innovation policies and measures of SOE reforms has been inextricably intertwined with industrial policy. In particular, China's trade and FDI policies have been utilised as instruments of industrial policy, with selected protection of or support to specific industries. The implementation of industrial policies involves many government agencies: the National Development and Reform Commission (NDRC), the MOC, the MOF, the Ministry of Science and Technology (MOST) and the State Administration of Taxation (SAT). The former MOFTEC and the State Economic and Trade Commission (SETC) had played important

roles prior to the 2003 government reform in which their function was incorporated into the MOC and the NDRC.

Table 5-9 Instruments of China's industrial policy

Policy instrument	*Measures or targets*	*Government agency**
Plan related policies		
1 Central government planning	Five-Year Plan; development strategies	NDRC
2 Price policies	Price controls on specific products or services	NDRC
3 Administrative means	SOEs	NDRC (SETC previously)
4 Direct state financing and investment	Government investment and financial grants	NDRC
Finance related polices		
5 Tax incentives	Tax reduction or exemption for specific industries, firms, projects, or R&D spending	MOF and SAT
6 Preferential interest rates and favourable financing	Low-interest loan; preferential public listing	PROB, CBRC and CSRC
Trade related policies		
7 Export promotion measures	Refunding taxes on exported goods; export credit	SAT and the Export-Import Bank of China
8 Tariff and non-tariff protections	Tariffs, quotas, and so on	MOC (MOFTEC previously)
9 Anti-dumping and anti-subsidies	Anti-dumping and anti-subsidies investigation and duties	MOC (MOFTEC previously)
FDI related policies		
10 Industrial guidance	Catalogue for the guidance of FDI; project screening	MOC (MOFTEC previously)
11 Business restrictions on FIEs	Local content requirements, restrictions on distribution and specific restrictions on some sectors	MOC (MOFTEC previously)
Innovation related policies		
12 Preferential treatment for R&D expenditures	R&D expenditures deducted pre-tax	SAT
13 'Special projects' and government financial grants	'Special project' related to specific industries	MOST and MII
Supportive polices for large domestic firms (SOEs)		
14 Identification of and support to the National Key Enterprises (NKEs)	Large-sized SOEs	NCRC (SETC previously)
15 Government led M&As and restructurings	Large-sized SOEs	

Note: * The present government agencies in charge of the implementation of specific policies; not including the previous government agencies in charge (except for important ones) and the previous names of the present agencies.

Industrial policy instruments utilised by the Chinese government were also under constant revisions due to the deepening process of economic transition and changing economic environment. Some policy instruments were increasingly difficult to use. As most prices are now determined by the markets (see Subsection 2.2.1), it is impossible to use the pricing polices directly in most product markets. With the deepening of the SOE reform (see Subsection 2.1.3 for details), direct administrative means are becoming increasingly unable to apply in most circumstances. As a non-discriminative business environment is emerging, the scope of policies towards specific categories of firms rather than specific industries will decrease; the policy measures will become more industry-oriented. After the entry to the World Trade Organisation (WTO), discriminative

treatments, such as local content requirements and distribution restrictions, towards FIEs will be gradually eliminated and business restrictions cannot be used as instruments of industrial policy. Tariff and non-tariff trade barriers to protect infant industries will be gradually abolished after China's WTO accession. The standard policy measures such as tax incentives have become increasingly important. Direct financial subsidies for Research and Development (R&D) expenditure on specified Science and Technology (S&T) projects have increasingly become an instrument of industrial policy. Led by the NDRC, a number of government agencies are involved in the implementation of China's industrial policy. The MOST played a major role in establishing special S&T projects and granting financial support to specific entities. Most of the funds are from the budget of the central government, thus the MOF is also involved. Main R&D subsidiary projects and government agencies in charge of them are listed in Table 5-10.

Table 5-10 Funds or programs supporting R&D projects

Fund or program	*Government agency in charge*
'863' Special Projects Funds	MOST
National S&T Breakthrough Plan	MOST (also MOF)
Industrial Technology Research and Development Funds*	MOF and NDRC (SDPC and SETC)
Innovation Fund for Small Technology-based Firms	MOST
High Technology Development Funds	NDRC
Development Fund of the Electronic and Information Industry	MII

Note: * In 2002, the funds were separated from the 'three technology costs' managed by the SDPC and the SETC. The remaining part of the 'three technology costs' is managed by the MOST.

Industrial guidance of FDI can be seen as one of the important instruments of industrial policy in China. Industrial guidance, along with regional guidance, is the main part of the guiding function of China's FDI regime, which covers the encouragement, guidance and administration of FDI projects and is embodied in a large number of laws and regulations. In line with the industrial policy, the Chinese government has adopted a 'selective promoting' strategy to attract preferred FDI projects. A series of regulations have been promulgated by the MOFTEC and other government agencies (see Table 5-11). In June 1995, the SPC, the SETC and the MOFTEC jointly promulgated the 'Tentative Provisions on Guiding the Orientation of Foreign Investment' and the attached catalogue of industrial guidance for FDI. This detailed catalogue categorises FDI projects into four kinds: encouraged, permitted, restricted and prohibited. In 1997, the catalogue was revised and the scope of the encouraged projects was broadened. The revised catalogue reflected the needs from the industrial policy to adjust industrial structure and to acquire advanced technology. It also highlighted the policy to encourage FDI in the Central and Western regions.[7] The revised catalogue aimed to promote export-oriented FDI projects. The projects previously in the 'permitted' category that export 100 percent of their products were listed in the 'encouraged' category. In February 2002, the newly promulgated 'Provisions on Guiding the Orientation of Foreign Investment' replaced the previous 'tentative provisions' and a new catalogue of industrial guidance for FDI was issued consequently. The number of 'encouraged' categories increased from 186 to 262 and the number of 'restricted' categories decreased from 112 to 75. The utility industries began to be permitted for foreign entry. The promises that China had made for its WTO accession

[7] In 2000, the 'Catalogue of Advantageous Industries of FDI in Central and Western Region' was promulgated. The listed industries were treated as encouraged industries in the catalogue of industrial guidance for FDI.

was reflected in this revision – the further opening up of the service industries which includes financial services, tourism, telecommunications, transportation, accountancy, law services, and so on. In June 2003, the MOST and the MOC jointly promulgated the 'Catalogue of Encouraged Hi-tech Products for Foreign Investment', which listed 917 high-technology products within 11 categories, including information technology, software, aerospace, optical electronics, biological medicine & medical instruments, new materials, new energy, environment protection, geological instruments, nuclear and modern agriculture.

Table 5-11 Regulations for industrial guidance of FDI

Regulation	*Year of promulgation*
Provisions of the State Council on the Encouragement of Foreign Investment	1986
Supplementary Provisions to Measures of the Ministry of Foreign Economic Relations and Trade for the Implementation of Examination and Confirmation of Products Export Enterprises and Technologically-advanced Enterprises with Foreign Investment	1992
Tentative Provisions on Guiding the Orientation of Foreign Investment	1995
Catalogue for the Guidance of Foreign Investment Industries	1995
Catalogue for the Guidance of Foreign Investment Industries	1997
Catalogue of Advantageous Industries of FDI in Central and Western Region	2000
Provisions on Guiding the Orientation of Foreign Investment	2002
Catalogue for the Guidance of Foreign Investment Industries	2002
Circular of the State Economy and Trade Commission on the Promulgation of the Guidance of Recent Development in the Industrial Sector	2002
Catalogue of Encouraged Hi-tech Products for Foreign Investment	2003

5.2 FDI, Competition and Industrial Development in China

Fixed asset investment, currently above 40 percent of GDP, has been the principle driver of China's economic growth. The sources of investment have come from both state and private sectors. From 1981 to 2001, the percentage of private investment in total investment grew from 18.1 to 38.4 percent (for the percentage of FDI, see Table 2-7). As the state-led investment projects are normally based on uneconomic government decisions and domestic private investment is largely constrained, FDI provides a crucial source of private investment. The increasing FDI inflows have brought in not only capital but also associated technology, managerial know-how and market access. Thus, compared with domestic investment especially that from the public sector, FDI provides a source of high-quality investment. In Section 2.1, we have analysed the role of competition in China's market creation and enterprise development. Competitive product markets were created in economic transition by curtailing central planning and moving towards market-based prices. New forces of competition were introduced into the markets, presenting a rivalry force towards the previously dominant SOEs. Inward FDI has introduced an important competitive force in domestic markets and the 'new competition' has conferred a strong impact on the development of Chinese industries. The effects of FDI on industrial development may be not only static or structural, but also dynamic or technological (see Chapter 4). However, the effectiveness of China's 'market for technology' strategy depends in part on the balance between the positive impact of FDI, conferred through its structural as well as dynamic effects, and the associated costs. The discussion in this section principally focuses on the intro- rather than inter-industry impact of FDI (see Figure 4-1). Thus the direct and indirect linkage effects from FDI to the upstream and downstream industries are not covered. However, the backward linkages

should not be neglected as they help China develop competitive supply chains, which has in turn made the country more attractive to foreign investors.

5.2.1 Rapid Development of the Manufacturing Sector: Strengths and Weaknesses

China's industrial sector has undergone a rapid development process during the reform period (see Subsection 1.4.1). This sector created RMB¥ 5,361.2 billion of value-added in 2003. Measured in US$ converted by the official exchange rate, the amount of industrial value-added is 648.3 billion. By the measure of total employment, the size of China's industrial economy overwhelms that of every other nation. According to the 1995 industrial census, over 7 million industrial enterprises in China employed more than 140 million workers, almost equal to the combined industrial work forces of the 28 OECD countries (Jefferson and Singh, 1999).

China's economy is producing a wide spectrum of industrial products each year more than any other economy in the world. According to the NBSC, China has become the largest producer of about 400 categories of manufacturing products. China's steel production capacity has already eclipsed that of the United States and Japan combined, but it is still expanding rapidly.[8] In 2003, China produced 50 percent of the world's cement. Rapid growing production of basic commodities and raw materials has been driven by ravenous domestic demand. In 2003, China accounted for half of the world's consumption of cement, 30 percent of its coal and 36 percent of its steel. The gaps between domestic demand and supply remain a powerful driver of import growth for many commodities and materials in recent years. For instance, China's oil imports rose by 30 percent, exceeding Japan's to become second only to America's.[9] Chinese firms have demonstrated convincingly that they can produce competitively priced and high-quality goods in a wide range of industries (see China's production of a number of important industrial goods in Table 5-12).

[8] See James Kynge, 'The Chinese boom is bound to end in tears. But is might not end for another 10 years…with bumps along the way', *Financial Times*, March 24, 2004. According to the NDRC, if all the recent projects finished, China's steel production capacity will become at least 330 million tons.

[9] See 'China's material needs: the hungry dragon', the *Economist*, February 19, 2004.

Table 5-12 Output of selected industrial products, 2001-2003

Product	*Unit*	*Production 2003*	*Growth (percent)*	*Production 2002*	*Growth (percent)*	*Production 2001*	*Growth (percent)*
Yarn	10 thousand tons	984	15.72	850	11.7	700	6.4
Fabric	100 million meters	375	16.21	322	11.2	291	4.8
Chemical fibber	10 thousand tons	1,181	19.16	991	17.8	828	19.3
Sugar	10 thousand tons	1,084	17.06	926	41.8	619	-11.5
Cigarette	10 thousand cases	3,583	3.35	3,467	1.9	3,402	0.2
Coal	100 million tons	16.7	15.00	13.8	18.9	11.1	10.9
Petroleum	100 million tons	1.70	1.80	1.67	1.8	1.65	1.3
Electricity	100 million KW-hour	19,108	15.52	16,540	11.7	14,780	9.0
Steel	10 thousand tons	24,119	25.28	19,218	19.6	15,745	19.8
Nonferrous metals	10 thousand tons	1,205	19.07	1,012	14.5	856	10.5
Cement	100 million tons	8.62	18.90	7.25	9.7	6.4	7.2
Timber	10 thousand m^3	4,950	11.59	5,035	10.6	5,100	13.3
Sulphuric acid	10 thousand tons	3,371	10.52	3,050	13.3	2,740	12.9
Sodium carbonate	10 thousand tons	1,128	9.18	1,033	13.0	906	8.6
Ethylene	10 thousand tons	612	12.66	543	13.0	481	2.3
Chemical fertiliser	10 thousand tons	4,201	10.81	3,791	12.1	3,397	6.6
Electricity generator	10 thousand KW	3,701	74.49	2,121	58.3	1,339	7.2
Automotive	10 thousand units	444.4	36.69	325.1	38.8	233	12.8
Colour television	10 thousand units	6,541	26.89	5,155	25.9	3,967	0.8
Refrigerator	10 thousand units	2,243	40.26	1,599	18.3	1,349	5.5
Air conditioner	10 thousand units	4,993	59.27	3,135	34.3	2,313	28.7
Integrated circuit	100 million blocks	148.3	53.99	96.3	51.4	63.6	8.2
Central office switches	10 thousand lines	7,380	25.92	5,861	-38.5	7,223	1.2
Mobile telephone	10 thousand units	18,231	50.10	11,960	48.9	2,474	64.4
Facsimile	10 thousand units	747	151.13	297	-6.6	318	19.8
Personal computer	10 thousand units	3,217	119.79	1,464	50.1	758	12.7
Optical telecom device	10 thousand units	8.7	34.11	6.5	-16.6	4.79	28.9

Source: NBSC.

With the rapid development of the industrial sector, the structure of this sector also witnessed gradual change. As noted in Subsection 1.4.1, the pre-reform industrialisation was largely based upon the central planning model of the former Soviet Union and priority was given to the establishment of strong heavy and chemical industries. Therefore China's industrial structural change has been different from the South Korean and Japanese model (see Subsection 1.4.2), in which the process of industrial structures upgraded from light industries to heavy and chemical industries and then to some high-technology sectors. Even in the beginning of the reform period, the share of heavy and chemical industries in the manufacturing sector was relatively high, with regard to the level of economic development (see Table 5-13). The early industrialisation strategy focused on heavy industries led to serious economic problems. The development of the heavy industries was heavily dependent on capital at the expense of labour-intensive light industries that were China's comparative advantages. Combined with lack of competition and poor incentives to improve efficiency, this strategy resulted in low economic efficiency (Lin *et al.*, 1996). The rapid development of the consumer-good industries during the reform period has transformed China's industrial structure to better align with its comparative advantages (OECD, 2002b). The interlocking set of reforms and government policies, particularly industrial policy, has created a highly dynamic industrial landscape in the reform era. Similar to the South Korean and Japanese model, the share of the high-technology industries has increased significantly, highlighted by the rapid increasing share of the

electronics industry (see Table 5-13).

Table 5-13 Structural change in China's manufacturing sector

Industry	*1981*	*1991*	*1997*
Light industries	36.0	32.4	32.9
Food products	4.7	5.3	7.2
Beverages	2.1	3.0	3.5
Tobacco	4.9	6.3	5.2
Textiles	16.1	10.0	7.1
Wearing apparel and footwear	2.3	2.4	3.0
Leather products	1.1	1.1	1.9
Wood products, except furniture	0.9	0.6	1.1
Furniture, except metal	0.8	0.5	0.6
Paper and products	2.0	2.0	2.2
Printing and publishing	1.3	1.2	1.2
Chemical industries	26.6	26.9	26.0
Industrial and other chemicals	11.5	12.9	11.5
Petroleum processing and coal products	5.2	3.6	3.8
Rubber products	2.2	1.7	1.3
Plastic products	1.5	2.0	2.3
Pottery, china, earthenware	0.5	0.6	0.7
Glass and products	0.9	0.8	0.6
Other non-metallic mineral products	4.9	5.3	5.7
Heavy industries	37.4	40.7	41.1
Iron and steel	6.9	7.5	6.5
Non-ferrous metals	2.0	2.1	2.0
Fabricated metal products	5.5	3.2	3.3
Machinery	13.6	11.3	8.5
Electronics	3.3	8.4	11.0
Transport equipment	3.1	4.9	6.4
Professional and scientific equipment	0.8	1.0	0.9
Other manufactured products	2.2	2.4	2.4

Source: OECD (2002b).

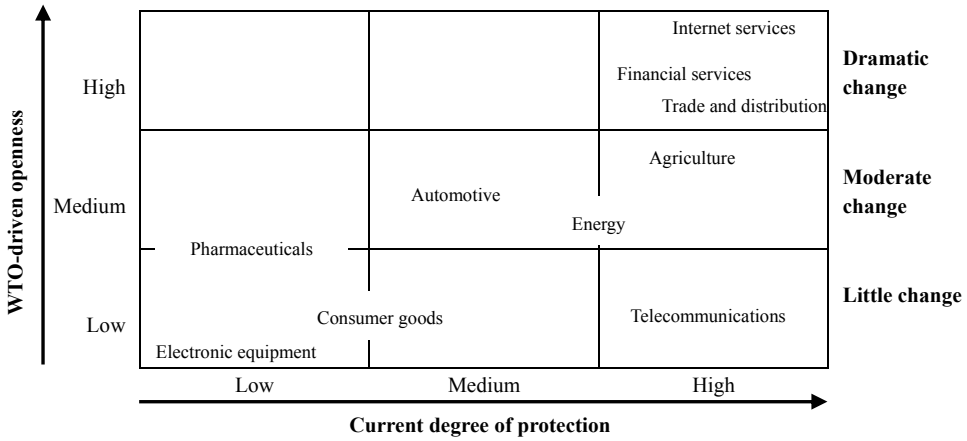
Despite the impressive rise during the reform period, China's industrial sector still has a number of weaknesses, most of which are associated with the structural problems of the Chinese economy. First, China's rapid industrial growth in the reform era has been largely concentrated in the coastal region. The gradual regional expansion of economic reform and openness has given costal regions considerable preferential policy support (see Subsection 2.1.4). The pioneering costal cities and regions have obtained the opportunity to develop local industry by absorbing foreign investors and promoting non-state domestic enterprises. Despite the recent government efforts to develop the West, China's industrial growth in the reform era has been largely concentrated in a number of coast provinces. Secondly, China's rapid industrial growth was accompanied by widespread business failures of SOEs and large-scale layoff of workers in these SOEs, which led to high unemployment and imposed a threat to the stability of the society due to the absence of a social welfare system. Approximately 40 percent of the state sector's workforce was laid off between 1997 and 2000 (see Subsection 2.1.3). The recent strategy of the Chinese government to recuperate the Northeast region has been mainly aimed at tackling this problem. Once the 'cradle of China's planned economy' and most industrial advanced region, the northeast provinces closed a large number of SOEs and faced severe problem of high rate of unemployment since the late 1990s. With 8 percent of China's population, the tree northeast provinces account for 22 percent of city dwellers entitled to poverty relieve. Thirdly, China's

industrial sector has long been a mixture of an emerging market system and the legacy of the planned economy. Many industries were strictly regulated and were shield from competition. Several important aspects of the industrial economy have still been subject to the old administrative systems, which are not suitable for a market economy. In the area of fixed asset investment, investment of the state sector is still subject to the system of investment management inhered from the central planning, a system the reform of which has been largely lagged behind the overall economic reform (Ba, 2003, in Chinese). Due in part to soft budget constraints, a large amount of state investment has been lavished on uneconomic projects, supported by government officials and branches of state-owned commercial banks. This resulted in overcapacity and inefficiency and led to the volatile nature of China's industrial development, highlighted by the overheating-restriction cycles. On the other hand, domestic private investment was largely constrained due to entry restrictions, administrative screening and financing constraint.

China's WTO accession may be a watershed of China's industrial development. Some problems caused by the legacy of central planning may be solved by the WTO-induced institutional changes. WTO membership has provided strong external impulses for further reforms and a series of reforms were planned at the Third Plenum of the Sixteenth Congress in 2003. The WTO entry increased the need to remove protection for inefficient industries, to promote market discipline for the state sector and to develop a new regulatory framework suitable for a market economy, which is important for further industrial development. The WTO accession impact varies by industry. In some industries, rapid and fundamental change has been already under way; in others, the changes have yet taken place. The WTO impact on an industry will depend on: 1) the current degree of protection, 2) China's commitments under WTO[10], and 3) the competitiveness of Chinese firms and the nature of market competition. Based on the assessments of the first two factors, Woetzel (2003) provides a prediction of the WTO impact on Chinese industries – some roughly categorised manufacturing sectors as well as some important service sectors and agriculture (see Figure 5-1). The third factor, the relative strength of Chinese firms (both domestic firms and affiliates of MNCs) in different manufacturing industries, will be addressed in next subsection, which will provides foundation for a general assessment of FDI impacts on the development of Chinese industries.

[10] China's commitments under WTO represent the consolidation of the 37 bilateral agreements between China and WTO members, also incorporate several multilateral agreements with the WTO working party (see the Annex I of OECD, 2002b, for a summary).

Figure 5-1 WTO impact on different industries (including agriculture and service sectors)



Source: Woetzel (2003).

5.2.2 The Rise of China's Industrial Enterprises: 'National Team' and Global Players

With markets created and industries developed, China's industrial enterprises grew up. The overall trends of enterprise development in China's industrial sector during the economic transition have been analysed in detail in Section 2.1. The most profound structural change came from the expansion of the non-state sector (see Subsection 2.1.2). Meanwhile, the Chinese government used a wide array of industrial policies to support the growth of a 'national team' of large firms that could compete with the world's leading companies (Nolan, 2001). Firm-level evidence will be provided in this subsection to highlight the positions of different ownership categories of enterprises in China's industrial sector and to demonstrate the role of inward FDI for firm development. The evidence shows that the Chinese market is 'divided and ruled' by the 'national team' of industrial enterprises and a large group of global players, mainly MNC affiliates. Large-sized SOEs still dominate the protected industrial sectors such as utilities, petroleum, steel and defence industry. Entry restrictions have by now largely sheltered these monopolistic SOEs from foreign and private competition. In the competitive manufacturing industries, foreign and domestic firms share the markets. The domestic players in these competitive markets include SOEs, Private-owned Enterprises (POEs), Collective-owned Enterprises (COEs), and other categories of firms, such as listed companies and International Joint Ventures (IJVs), which have mixed ownership characteristic (see Subsection 2.1.2). The significance of SOEs in these competitive markets has constantly decreased in the reform period. This trend has accelerated since the mid-1990s when the policy of 'grasp the large and let go the small' was formulated (see Subsection 2.1.3).

Different ownership categories of enterprises have shared important complementary relationships that are critical to the overall dynamics of Chinese industry (Jefferson and Rawski, 1999). Despite their shrinking share of industrial output, SOEs has still retained a central position in the industrial sector. They remain the largest producers of a broad range of key commodities. In the evolutionary process of China's industrial development during

the reform period, the state-owned industrial sector has provided essential resources for the development of non-state enterprises and the conversions of SOEs have been a vital source of IJVs and listed companies. On the other hand, SOEs served as a transitional device in providing social welfare to the urban labours in a destabilised environment of economic transition especially before the mid-1990s. The rapid growth of TVEs in the first phase of China's economic transition was one of the most important achievements of China's industrial development in that period. The pre-reform industrialisation strategy had left a large gap between supply and demand for consumer goods. Therefore TVEs rapidly expanded in the labour-intensive light industries such as garments, leather, beverages, furniture and paper products (Otsuka *et al.*, 1998). TVEs were usually more flexible managed and more sensitive to market signals than SOEs. TVEs provided a transitional form of enterprises in an ideological environment with hostile attitudes toward private ownership and also served as an effective means of industrialisation in China's dualistic economic structure. Prior to the early 1990s, industrial development was largely driven by the rapid expansion of TVEs. Since the beginning of the second phase of economic transition, FIEs have become a central force in the Chinese economy. Compared with TVEs, FIEs has been engaged in more technology-intensive industries, although a large part of FDI inflows were targeted at cheap labours in China. China's manufacturing sector has already become a major production platform for MNCs. Inward FDI has introduced an important competitive force in domestic markets and helped reshaping China's industrial landscape.

Table 5-14 lists the 50 largest Chinese enterprises in 2002.[11] Although we focus on industrial enterprises, this table also includes the largest Chinese enterprises in service sectors such as telecommunications, trade (whole sale or retail), construction, airlines and shipping, in order to provide an overall picture of the sectoral distribution of the largest Chinese enterprises. Due to the fact that China's post service and railway transportation are monopolistic businesses, they are not included in this list. Financial institutions are also not included. Among the top 50 enterprises, 37 are in the industrial sector, including five firms in the construction sector and five firms in the energy (electricity) sector. Totally 27 firms are in the manufacturing sector: nine in the electronics & ICT industry; five in the defence industry; four in the steel industry; four in the automotive industry[12]; three in the petroleum industry; one in the tobacco industry; and one diversified in textile and pharmaceuticals. The industries of electronics & ICT, defence, steel, automotive and petroleum are the main sectors that host China's largest industrial firms. The petroleum industry hosts China's two largest firms, China National Petroleum Corporation (CNPC) and China Petroleum and Chemical Corporation (Sinopec).

[11] The data is from the rank of the largest 500 Chinese enterprises compiled by the China Enterprise Confederation & China Enterprise Directors Association. The financial institutions, railway bureaus, and the China State Post Bureau, which are included in this ranking, are not included in Table 5-14.

[12] Shanghai Automotive Industry (Group) Corporation takes 50 percent equity of Shanghai Volkswagen. Thus there is double calculation of sales here.

Table 5-14 Top 50 Chinese enterprises in 2002

Rank	*Company*	*Revenue (RMB¥ million)*	*Industry*	*Ownership*
1	China National Petroleum Corporation	379,200	Petroleum	SOE
2	China Petroleum and Chemical Corporation	378,004	Petroleum	SOE
3	China Mobile Communications Corporation	163,732	Telecommunications	SOE
4	China National Chemicals Import & Export Company	155,287	Trade (diversified)	SOE
5	China Telecommunications Group Company	149,077	Telecommunications	SOE
6	China FAW Group Corporation	127,242	Automotive	SOE
7	China National Cereals, Oils & Foodstuffs Imp. & Exp. Corporation	109,710	Trade (diversified)	SOE
8	Shanghai Baosteel Group Corporation	77,728	Steel	SOE
9	Guangdong Electric Power Group Company	76,946	Electricity	SOE
10	Shanghai Automotive Industry (Group) Corporation	71,196	Automotive	SOE
11	Haier Group Company	71,053	Electronics and ICT	*
12	China Network Communications Group Corporation	66,031	Telecommunications	SOE
13	China State Construction Corporation	63,832	Construction	SOE
14	China Putian Corporation	60,228	Electronics and ICT	SOE
15	China Ocean Shipping (Group) Company	59,488	Shipping	SOE
16	Philips (China) Investment Co., Ltd.	58,425	Electronics and ICT	FIE
17	Dongfeng Motor Corporation	53,364	Automotive	SOE
18	China United Telecommunications Corporation	50,333	Telecommunications	SOE
19	Motorola (China) Electronics Ltd.	47,100	Electronics and ICT	FIE
20	China Railway Engineering Corporation	46,963	Construction	SOE
21	Shanghai Electric (Group) Corporation	46,943	Electricity	SOE
22	China Metals & Minerals Imp. & Exp. Corporation	46,301	Trade (diversified)	SOE
23	China Railway Construction Corporation	45,202	Construction	SOE
24	China North Industries Group Corporation	42,615	Defence	SOE
25	China South Industries Group Corporation	39,692	Defence	SOE
26	China Huaneng Group	37,040	Electricity	SOE
27	Shanghai Volkswagen Automotive Company Ltd.	36,265	Automotive	FIE
28	China Aviation Industry Corporation I	36,000	Aviation and defence	SOE
29	Lenovo Group (Legend Group)	35,542	Electronics and ICT	*
30	China National Offshore Oil Corporation	34,339	Petroleum	SOE
31	Yuxi Hongta Tobacco (Group) Co., Ltd.	33,596	Tobacco	SOE
32	SVA (Group) Co., Ltd.	33,146	Electronics and ICT	SOE
33	China Worldbest Group Co., Ltd.	32,002	Textile & Pharmaceuticals	SOE
34	Zhonghuan Electronics Group Corporation	28,412	Electronics and ICT	SOE
35	China Southern Airlines Limited	26,901	Airlines	SOE
36	China Aviation Industry Corporation II	26,300	Aviation and defence	SOE
37	Shenhua Group Corporation Limited	25,788	Energy (coal mining)	SOE
38	Liaoning Electric Power Corporation	25,649	Electricity	SOE
39	Shougang (Group) corporation	25,375	Steel	SOE
40	Hualian (Group) corporation	25,165	Trade (diversified)	SOE
41	China Metals Construction Group Corporation	24,766	Construction	SOE
42	Anshan Iron and Steel Group Corporation	24,556	Steel	SOE
43	Benxi Iron and Steel (Group) Corporation	23,423	Steel	SOE
44	Air China Co., Ltd.	23,191	Airlines	SOE
45	Shanghai Construction Group	23,003	Construction	SOE
46	China Aerospace Science and Industry Corporation	22,671	Aerospace & defence	SOE
47	Zhejiang Materials Company	22,648	Trade (diversified)	SOE
48	TCL Holdings Co., Ltd.	22,116	Electronics and ICT	*
49	Huawei Technologies Co., Ltd.	22,000	Electronics and ICT	POE
50	China Shipping (Group) Company	21,600	Shipping	SOE

Source: China Enterprise Confederation & China Enterprise Directors Association.
Note: * Mixed or ambiguous ownership.

Among the top 50 enterprises listed in Table 5-14, there are one Private-owned Enterprise (POE), three FIEs, and three firms with mixed ownership characteristic. The

only POE is Huawei Technologies, a telecom equipment vendor. Clearly, in the sector of large-scale enterprises, the significance of POEs is still low, despite the fact that they have taken a substantial share of total industrial output (see Figure 2-2). The three firms with mixed ownership characteristic are Haier Group, Lenovo Group (previously named Legend Group) and TCL Holdings, all in the electronics & ICT industry.[13] These three firms are representatives of the successful development and transformation of non-central state-owned or collectively owned enterprises. Different from the large monopolistic SOEs, these firms have been grown up in the competitive business environment. The three FIEs are Philips (China), Motorola (China) and Shanghai Volkswagen. The first two are holding companies established by Philips and Motorola in China and the last one is an IJV between Volkswagen and Shanghai Automotive Industry (Group) Corporation.

The relatively limited number of FIEs in the top 50 enterprises has probably been caused by two reasons. First, several large-scale industries hosting the largest firms, usually monopolistic SOEs, are not open to foreign investors. The Chinese government will continue to have compelling political and economic reasons for maintaining control in many sectors and China's business and legal environment still poses obstacles to entry of foreign firms into specific industries. These protected industries are dominated by SOEs and competition from non-state-owned firms has been limited by entry restrictions. The generally closed service sectors include financial services, telecommunications, trade& distribution and transportation (railway and airlines). The generally closed industrial sectors are mainly resource-based heavy industries and utility industries, such as electricity, gas, petroleum, steel and non-ferrous metals. Other strictly closed manufacturing industries include the defence industries, tobacco, and so on. Secondly, some MNCs have not centralised the management or common functions of different affiliates within a corporate group. Before the mid-1990s, the relevant laws did not permit one FIE to invest in another FIE or in a domestic Chinese company. Under the 'Interim Provisions on Foreign Invested Investment Companies' promulgated in 1995, foreign firms may establish holding companies (investment companies) to hold equities in different FIEs.[14]

The large-sized SOEs listed in Table 5-14 are mostly monopolistic players in protected industries, in both service and industrial sectors. Many of these SOEs were converted from former sectoral supervisory government agencies (see Subsection 2.1.3 for a discussion of SOE reform). The rapid growth of the largest SOEs was associated with the strategy to develop large industrial groups in the 1990s (see footnote 63 in Chapter 1). Most of these largest SOEs have been identified as NKEs and retained a central position in China's industrial sector – they have formed the backbone of China's state sector. However, most of these SOEs cannot be considered as purely state-owned. As corporate groups or holding

[13] Haier Group is legally still an urban COE. Due to the complex structure of the group, the unapparent institutional arrangement of ownership and the recent efforts of MBO (Management buyout), the ownership of Haier Group is rather ambiguous. TCL was original a SOE owned by the local government. However, based on the contractual arrangement which provide equity incentives for the management team according to the net-asset growth, the employees of TCL has hold 42 percent of the company's equity before the recent IPO in 2004. TCL is now a listed joint-stock company. Legend group was originally invested by the Institute of Computing Technology, Chinese Academy of Sciences. In 1994, the employees received 35 percent of semi-ownership (dividend sharing). In 1998, the 35 percent of employee ownership was legalised. In 1999, a program of employee share holding further clarified the individual ownership.

[14] The 1995 'Interim Provisions on Foreign Invested Investment Companies' and other holding company regulations have been replaced by the 'Provisions on Foreign Invested Investment Companies' promulgated in 2003.

corporations, they have a large number of subsidiaries, which are SOEs, IJVs, or listed companies. At the top of the corporate structure is the state ownership; while at different levels of the hierarchy, a large number of firms with different categories of ownership are affiliated.

The entry of non-state firms injected competition into markets and introduced a rivalry force towards the previously dominant SOEs. The new entrants competed successfully in a large number of markets and captured increasing market share from the control of SOEs. Aggregately, the state sector, including enterprises either state-owned or state-holding, accounted for less than 30 percent of industrial output in the late 1990s (see Figure 2-1). What are the situations in different manufacturing industries? In addition to the previous assessment on the basis of the analysis of the largest enterprises, Table 5-15 shows the share of FIEs, SOEs and COEs (mainly TVEs) in 28 two-digit industries in China's manufacturing sector in 1995, ranked by the significance of FIE presence in terms of FIE contribution to value-added.

Table 5-15 Ownership percentage of value-added in China's manufacturing industries in 1995

Rank	*Industry*	*FIEs (percent)*	*SOEs (percent)*	*TVEs (percent)*
1	Electronics and telecom equipment	65.0	27.2	7.8
2	Garments and other fabric products	53.1	6.7	40.3
3	Leather, fur and eiderdown products	51.7	7.7	40.6
4	Cultural, education and sports products	48.6	14.5	36.9
5	Instruments and office machinery	43.5	42.5	14.0
6	Plastic products	40.4	13.7	45.9
7	Furniture manufacturing	36.1	10.4	53.5
8	Food manufacturing	34.8	38.0	27.3
9	Electric equipment and machinery	32.9	32.5	34.6
10	Pharmaceuticals	30.6	55.6	13.8
11	Metal products	30.5	20.0	49.5
12	Timber processing	28.1	21.0	51.0
13	Rubber products	27.7	46.5	25.8
14	Transportation equipment	26.8	59.4	13.8
15	Beverages	23.4	63.9	12.8
16	Textile industry	22.9	41.0	36.1
17	Food processing	22.1	49.6	28.3
18	Printing and record medium reproduction	21.5	59.5	19.0
19	Papermaking and paper products	19.2	45.8	35.0
20	Chemical fibber	19.1	55.0	25.9
21	Ordinary machinery	18.1	51.2	30.7
22	Raw chemical materials and chemical products	15.7	64.8	19.6
23	Non-metal mineral products	13.4	40.1	46.5
24	Special-purpose equipment	12.2	60.4	27.4
25	Non-ferrous metals	10.8	68.2	21.0
26	Ferrous metals	5.2	84.3	10.6
27	Petroleum processing	0.8	95.4	3.8
28	Tobacco	0.6	99.4	0.1
	Simple average	26.9	45.5	27.6

Source: Third National Industrial Census.

Table 5-15 shows that FIEs already took prominent positions in many Chinese industries in 1995, almost the same as the non-state-owned domestic sector, measured approximately by the simple average of their percentage of value-added. The position of FIEs further strengthened since the mid-1990s (see Table 5-5), mainly driven by the rapid

growth of capital inflow from MNCs. Almost all MNCs in the *Fortune 500* ranking have invested in China, except for those operating in the industries in which China restricts foreign entry.[15] However, the aggregate data of FIE presence in standard classified industries cannot enable us to assess the degree of MNC participation in Chinese industries and the data for the largest enterprises in Table 5-14 only touches upon several largest FIEs in one year. To generally examine the degree of MNC presence in Chinese industries, we turn to the more detailed firm level evidence.[16] This evidence covers the largest MNC subsidiaries, which have the highest potential to dominate domestic markets. Table 5-16 lists China's top 10 FIEs in 1991, 1995, 2000 and 2002 respectively.[17] Due to the fact that some MNCs have not centralised the management or common functions of different affiliates within a corporate group, for most MNCs their China affiliates are individual statistical units in the MOFTEC's statistics. For instance, Shanghai Volkswagen and FAW-Volkswagen are taken as individual firms in Table 5-16. If summing up, Volkswagen may become the largest foreign investor in terms of annual turnover in China. Similarly, if the three largest China affiliates of Nokia were summed up, the 2002 revenue of Nokia in China would become RMB¥ 41.6 billion.

[15] According to a survey by Wang (2000).

[16] The firm-level evidence is dawn from a dataset, compiled by the author on the basis of data from the MOC (previously MOFTEC and SETC), which includes the largest 500 FIEs and the largest 500 National firms (mainly SOEs) for the 1990-present period.

[17] The data is according to 'largest 500 foreign-invested enterprises' list compiled by the MOFTEC. Two categories of companies in the MOFTEC list are not included. The first category is the listed companies in China's B-share market and some international stock market. Although there is above 25 percent of foreign share in these companies (legal criterion of FIEs), these companies are not established by foreign investors; instead they are domestic companies (partly restructured from SOEs) that went public in international stock market (including China's B-share market). The second category is the mobile telecommunications companies of the provinces such as Guangdong, Zhejiang, Fujian, Henan, and so on. These companies were included in the MOFTEC list after 1999 when they were acquired by the Hong Kong-listed China Mobile.

Table 5-16 Top 10 FIEs, selected years

Year	*Rank*	*Company*	*Revenue (RMB¥ million)*	*Industry*
2002	1	Motorola (China) Electronics Ltd.	45,333	Electronics and ICT
	2	SAIC-Volkswagen Sales Co., Ltd.	44,640	Automotive (sales)
	3	Hon Hai Precision Industry (Shenzhen) Co., Ltd.	38,610	Electronics and ICT
	4	Shanghai Volkswagen Automotive Company Ltd.	36,265	Automotive
	5	FAW-Volkswagen Automotive Sales Co., Ltd.	33,343	Automotive (sales)
	6	FAW-Volkswagen Automotive Co., Ltd.	30,281	Automotive
	7	Shanghai General Motors Co., Ltd.	18,563	Automotive
	8	Beijing Nokia Mobile Telecommunications Co., Ltd.	17,720	Electronics and ICT
	9	Dell Computer (China) Co., Ltd.	17,572	Electronics and ICT
	10	Guangzhou Honda Automotive Co., Ltd.	13,632	Automotive
2000	1	Motorola (China) Electronics Ltd.	31,289	Electronics and ICT
	2	Shanghai Volkswagen Automotive Company Ltd.	28,698	Automotive
	3	Beijing Nokia Mobile Telecommunications Co., Ltd.	15,867	Electronics and ICT
	4	FAW-Volkswagen Automotive Co., Ltd.	15,797	Automotive
	5	Dalian West Pacific Petrochemical Co., Ltd.	13,000	Petrochemical
	6	Nanjing Ericsson Communication Co., Ltd.	9,873	Electronics and ICT
	7	Konka Group Co., Ltd.	9,017	Electronics and ICT
	8	Shanghai General Motors Co., Ltd.	8,847	Automotive
	9	Top Victory Electronics (Fujian) Co., Ltd.	7,791	Electronics and ICT
	10	Siemens Shanghai Mobile Communications Ltd.	7,717	Electronics and ICT
1995	1	Shanghai Volkswagen Automotive Company Ltd.	18,431	Automotive
	2	Motorola (China) Electronics Ltd.	7,364	Electronics and ICT
	3	Beijing Jeep Corporation, Ltd.	5,746	Automotive
	4	Shanghai Bell Co., Ltd.	4,545	Electronics and ICT
	5	Southseas Oils & Fats Industrial (Chiwan) Limited	3,775	Chemicals
	6	Konka Group Co., Ltd.	3,610	Electronics and ICT
	7	P&G (Guangzhou) Co., Ltd.	3,100	Personal products
	8	Qingling Motors Company Limited	2,991	Automotive
	9	Nanjing Jincheng Machinery Ltd.	2,811	Motorcycle
	10	Shanghai Mitsubishi Elevator Co., Ltd.	2,786	Elevator
1991	1	Shanghai Volkswagen Automotive Company Ltd.	3,575	Automotive
	2	Beijing Jeep Corporation, Ltd.	2,406	Automotive
	3	Guangzhou Peugeot Automobile Co., Ltd.	1,553	Automotive
	4	Southseas Oils & Fats Industrial (Chiwan) Limited	1,140	Chemicals
	5	Beijing Matsushita Colour CRT Co., Ltd.	1,135	Electronics and ICT
	6	Konka Group Co., Ltd.	1,086	Electronics and ICT
	7	Antaibao Hypaethral Coal Mine	929	Mining (Coal)
	8	Huaqiang Sanyo Electric Co., Ltd.	900	Electronics and ICT
	9	Shenzhen Zhonghua Bicycle (Group) Co., Ltd.	840	Bicycle
	10	Fujian Hitachi Television Co., Ltd.	740	Electronics and ICT

Source: MOFTEC.

SOEs still occupy leading positions in many Chinese industries in 1995 (see Table 5-15). Although the significance of SOEs in the industrial sector further declined since the mid-1990s as non-state-owned firms, particularly FIEs, rapidly expanded, SOEs has retained a central position in China's industrial sector, mainly in the protected industries in which competition from non-state-owned firms has been largely limited by entry restrictions. The more detailed firm level longitudinal evidence reflects the process during which SOEs increasingly retreated from the competitive consumer-product sector and concentrated in the monopolistic basic industries. Table 5-17 lists China's top 10 domestic owned manufacturing enterprises (mostly SOEs) in 1990, 1994, 2000 and 2002

respectively.[18] The industrial distribution of the largest industrial SOEs has already been shown in Table 5-14. To focus on the manufacturing sector and make it more comparable to Table 5-16, Table 5-17 does not include the largest industrial firms in the services, utilities and construction sector, as well as the large diversified trading firms, which are included in Table 5-14.

Table 5-17 Top 10 manufacturing SOEs, selected years

Year	*Rank*	*Company*	*Revenue (RMB¥ million)*	*Industry*
2002	1	China National Petroleum Corporation	379,200	Petroleum
	2	China Petroleum and Chemical Corporation	378,004	Petroleum
	3	China FAW Group Corporation	127,242	Automotive
	4	Shanghai Baosteel Group Corporation	77,728	Steel
	5	Shanghai Automotive Industry (Group) Corporation	71,196	Automotive
	6	Haier Group Company	71,053	Electronics and ICT
	7	China Putian Corporation	60,228	Electronics and ICT
	8	Dongfeng Motor Corporation	53,364	Automotive
	9	China North Industries Group Corporation	42,615	Defence
	10	China South Industries Group Corporation	39,692	Defence
2000	1	China Petroleum and Chemical Corporation	375,390	Petroleum
	2	China National Petroleum Corporation	345,072	Petroleum
	3	Shanghai Baosteel Group Corporation	70,856	Steel
	4	Haier Group Company	40,628	Electronics and ICT
	5	China FAW Group Corporation	39,048	Automotive
	6	China North Industries Group Corporation	29,807	Defence
	7	Legend Group	28,441	Electronics and ICT
	8	China National Offshore Oil Corporation	28,354	Petroleum
	9	Dongfeng Motor Corporation	25,803	Automotive
	10	Shanghai Automotive Industry (Group) Corporation	25,801	Automotive
1994	1	Daqing Petroleum Administration Bureau	19,908	Petroleum
	2	Yuxi Cigarette Factory	14,670	Tobacco
	3	Shanghai Baosteel Group Corporation	7,941	Steel
	4	Shougang (Group) Corporation	7,108	Steel
	5	Shanghai Automotive Industry Corporation	6,836	Automotive
	6	Anshan Iron and Steel Group Corporation	4,908	Steel
	7	China FAW Group Corporation	4,540	Automotive
	8	Kunming Cigarette Factory	3,682	Tobacco
	9	Wuhan Iron and Steel (Group) Corporation	3,507	Steel
	10	Shanghai Tobacco (Group) Corporation	2,774	Tobacco
1990	1	Shougang (Group) Corporation	2,518	Steel
	2	Daqing Petroleum Administration Bureau	2,209	Petroleum
	3	Yuxi Cigarette Factory	1,884	Tobacco
	4	Wuhan Iron and Steel (Group) Corporation	1,824	Steel
	5	Anshan Iron and Steel Group Corporation	1,823	Steel
	6	Beijing Yanshan Petrochemical Co., Ltd., CNPC	1,769	Petroleum
	7	Kunming Cigarette Factory	1,747	Tobacco
	8	Shanghai Tobacco (Group) Corporation	1,477	Tobacco
	9	Shanghai Petrochemical Co., Ltd., SINOPEC	1,300	Petroleum
	10	Qilu Petrochemical Co., Ltd., SINOPEC	1,193	Petroleum

Source: SETC.

The state-owned manufacturing sector has expanded greatly since the early 1990s (see Table 5-17). The revenue of the tenth largest manufacturing SOEs increased from RMB¥

[18] The data is according to 'largest 500 industrial enterprises' list compiled by the SETC.

1.2 billion in 1990 to RMB¥ 39.7 billion in 2002. Petroleum industry has always been a key sector that hosted the largest SOEs. Four oil companies were in the top 10 in 1990 and two in 2002. Due to the corporatisation reform and the government-led concentration, CNPC and Sinopec have become the two largest firms since the late 1990s. Steel sector was another important sector hosting the largest SOEs. In 1990, three out of the five largest manufacturing SOEs were from the steel industry. However, Shanghai Baosteel Group became the only steel company in the top 10 list in recent years. A striking feature of the structural change since the 1990s has been the rapid rise of the automotive and the electronics & ICT industry, which began to host the largest domestic enterprises. Before the mid-1990s, many largest firms in the top 10 were from the tobacco industry. The position of none of them has persisted since then. In 1990, most of the largest 50 industrial firms were steel companies, petrochemical factories and cigarette factories. There was no firm in the electronics industry and only one in the automotive industry – the Second Auto Works (later Dongfeng Motor Corporation), which ranked 31st. In 2002, three firms in the automotive industry and two firms in the electronics & ICT industry were in the top 10. The revenue of them was rapidly approaching the threshold of US$ 10 billion for the *Fortune 500* ranking in recent years. In 2004, Shanghai Automotive Industry Corporation and Shanghai Baosteel Group Corporation, together with other 12 Chinese firms, are included in the *Fortune 500* list. It is the fist time when China's manufacturing enterprises from competitive industries, rather than financial institutions, industrial monopolists and telecommunications companies, being able to enter the list. Other largest domestic players in the automotive and the electronics & ICT industry, such as FAW Group, Dongfeng Motor Corporation and Haier Group, will possibly enter the *Fortune 500* list in the next year.

5.2.3 Spillover Effects from Inward FDI

FDI may have a positive impact on the development of recipient industries through direct as well as indirect impact, such as demonstration and diffusion effects as well as the competition and stimulation effects (see Subsection 4.1.2 for a detailed discussion). Studies on FDI spillovers separate the overall effects of FDI on industrial development and focus on the indirect effects on domestic firms. There have been studies that assessed the overall effects of FDI on the development of Chinese industries in terms of productivity growth. Shi (1998) argued that FDI produce beneficial effects on industrial development in terms of higher productivity on the basis of the case study of China's type recorder industry. Liu *et al.* (2001) and Wei and Liu (2001) examined the impact of FDI on labour productivity in China's electronics and telecom equipment industry. Liu *et al.* (2001) examined the impact of FDI on labour productivity using a dataset comprised 41 segments of China's electronics industry for 1996 and 1997. The data were from the *Yearbook of China's Electronics Industry*, 1997 and 1998. Labour productivity was modelled as determined by the degree of foreign presence as well as other variables, namely, capital intensity, human capital and firm size. This study concluded that foreign presence is associated with higher labour productivity. Liu and Wang (2003) studied the impact of FDI on Total Factor Productivity (TFP) for a cross-sectional sample of China's industrial sectors. The data were drawn from the Third National Industrial Census and consisted of 189 industries. An endogeneity test suggested that there was no evidence for a bi-directional causal relationship between TFP and foreign presence. Evidence indicated that foreign presence, the level of R&D and firm size are the most important factors enhancing TFP in Chinese industries. The findings of these studies have generally supported the argument that attracting FDI is an

effective way of introducing advanced technology to Chinese industries. However, the observed improvement in productivity might be largely a result of the growth of foreign firms and the overall assessment of the FDI impact on productivity did not distinguish this direct from the indirect, or spillover, effects.

FDI spillovers in China have also been examined by several studies, which investigated spillovers from FDI on productivity and, more rarely, non-productivity aspects. Different from the typical cross-industry approach, a limited number of studies were cross-regional analysis. Based on a city-level FDI dataset covered 489 cities for the 1985-1995 period, Zhu and Tan (2000) found that the intensity of FDI inflows is positively associated with labour productivity in Chinese cities. A Grange causality test on a sub-dataset covered 50 cities indicated a bi-directional causal relationship: FDI intensity has a strong positive effect on the labour productivity in Chinese cities and higher levels of labour productivity also attract more FDI inflows. The results of the analysis of the complete data set confirmed the contribution of inward FDI to the increase of labour productivity in China. To examine the feedback effects of labour productivity on the intensity of FDI inflows, the study followed the conventional literature on the determinants of FDI location and included a list of location specifics as explanatory variables. The study found that labour productivity did affect FDI location and this variable is especially important in inland cities. Using provincial data covered 30 provinces for the 1995 to 2000 period, Cheung and Lin (2004) found evidence for the positive FDI spillovers on domestic patent allocations in Chinese provinces.

The productivity spillovers from FDI in Chinese industries have been studied on the basis of several different dataset, which covered different industries in China's industrial sector. Using a large sample of large and medium-sized enterprises in China's electronics and textile industries, Hu and Jefferson (2002) investigated the spillover effects from FDI on TFP and sales of domestic firms in China's electronics and textile industries. The data were drawn from the 'Survey of Large and Medium-Sized Enterprises' that the NBSC conducted each year. The sample spanned the period from 1995 to 1999 and included 19 segments within the electronics and telecom equipment industry and 33 segments in the textile industry. Following Aitken and Harrison (1999), this study examined the impact of FDI on domestic firms' TFP by estimating an FDI-augmented production function, taking account of both foreign share of a firm's equity and foreign presence in industrial segments. Using a polled cross-sectional estimate, this study found a tendency of FDI to reduce the productivity and market share of domestic firms. Comparing the difference between 1995 and 1999, the study found that the initial productivity gaps between domestic firms and foreign affiliates tend to disappear. To explain the discrepancy, the authors argued that the short- and long-run impacts of FDI on the performance of domestic firms are quit different. In the short run, the superior technologies and managerial know-how of foreign affiliates enable them to enjoy a productivity advantages and cut into the market shares of domestic firms. Over time, the superior technologies and managerial know-how is diffused across firms in the industry and surviving firms improved their efficiency accordingly. This explanation was similar to the two-stage model proposed by Dunning (1975), which suggested that the structural effects of MNC entry will occur in two conceptually distinct stages: the at-entry effect and the post-entry effect.

Perhaps the most throughout inquiry on FDI spillovers in Chinese industries is the study of Buckley *et al.* (2002). The study was based on the aggregate industry-level data, which included 130 three-digit industries and were drawn from the Third Industrial Census. Following the standard literature on productivity spillovers from FDI, the authors assumed that labour productivity is a function of foreign presence. Other variables considered to

influence labour productivity were included as controls: capital intensity (the capital labour ratio), R&D intensity (R&D expenditure per employee), labour quality (the percentage of college graduates in total employment) and firm size (the value of assets per firm). To examine the possible existence of the bi-directional causal relationship between productivity and foreign presence, the Hausman test was employed. The authors inferred that there was no evidence of a two-way causality between productivity and foreign presence, justifying the OLS method to estimate the correlation between productivity and independent variables. The results of regression analysis demonstrated that foreign presence, measured by either capital or employment, is significantly positively correlated with the labour productivity of domestic firms. In addition to productivity spillovers, Buckley *et al.* (2002) examined non-productivity spillovers in terms of the development of high-technology products and new products. The results showed that foreign presence, measured by capital participation, has significantly contributed to the development of high-technology and new products, as well as the export performance for domestic firms, corroborating the hypotheses about non-productivity spillovers. Based on the firm-level data drawn from the Third Industrial Census, Zhou *et al.* (2002) found that domestic firms in regions that attract more FDI tend to have higher productivity, while domestic firms in industries that have more FDI tend to have lower productivity.

Buckley *et al.* (2002) investigated the difference between overseas Chinese and non-Chinese FDI on the performance of Chinese domestic firms. Taking overseas Chinese and non-Chinese capital participation as dependent variables, the regression results demonstrated that the overseas Chinese capital did not have a statistically significant positive impact on the productivity of domestic firms, while non-Chinese capital did. Similarly, empirical results indicated that non-Chinese FDI exerted positive effects on the development of high-technology products and new products for domestic firms, while the roles of overseas Chinese FDI was insignificantly negative. According to the authors, this contradicting results is consistent with the industrial distribution of FDI by overseas Chinese and non-Chinese foreign investors. Non-Chinese investors are usually MNCs with high technological capabilities and they mainly invest in technological intensive industries. Non-Chinese MNCs are superior to Overseas Chinese firms in product and process innovation and in technological development (Yeung, 1997). They are in a stronger position to transfer technologies and managerial skills to domestic firms than overseas Chinese investors, the ownership advantages of which lie in their marketing skills and knowledge of China (Luo, 1999). Although overseas Chinese investor cannot generate significant technology spillovers to domestic firms due to their relatively weak technological position, their market skills do enable them to exert substantial market-access spillovers. Buckley *et al.* (2002) supported this argument. Export performance of domestic firms was found to benefit from both overseas Chinese and non-Chinese capital, which implied that both overseas Chinese and non-Chinese investors provided a stimulus to Chinese exporters.

Buckley *et al.* (2002) also compared SOEs and COEs as beneficiaries of FDI spillovers. The results indicated that foreign presence did not positively affect the productivity and export performance of SOEs. In contrast, non-Chinese capital participation improved productivity of COEs and total foreign capital participation enhanced the export performance of COEs. The authors found that the effects of foreign capital participation on labour productivity and exports of COEs was significantly greater than for SOEs, indicating a lower level of absorptive capability and learning capacity on the part of SOEs compared with COEs.

5.2.4 FDI and Competition: Pro- and Anti-Competitive Effects of MNC Presence

The subsidiaries of MNCs, due to their possession of ownership advantages and their status in an international production system, have more competitive advantages and greater conduct options available than domestic firms. MNCs can inject competition into markets and contribute to improving industrial performance. But the same competitive strength could, under certain conditions, also create opportunities for MNCs to eliminate competitors, gain dominant positions within markets and even abuse their market dominance and engage in anticompetitive practices, hence leading to possible reduction in efficiency. Although evidence on FDI spillovers suggested that some Chinese domestic firms might benefit from competing with foreign entrants, there has been no study explicitly investigating the competition impact of FDI and its implications for industrial development. The lack of studies that examine the relationship between FDI and the degree of competition has been largely due to the unavailability of systematic industry-level data that can be used as measures of market structure and competition, such as concentration ratios and market shares.

In the study on the productivity spillovers from FDI, Hu and Jefferson (2002) found that FDI reduced market shares of domestic firms. This study also examined whether SOEs are particularly vulnerable to competition from FDI than other domestic firms. The results demonstrated that SOEs in the electronics industry, although less efficient than other firms, were not more vulnerable to competition from foreign affiliates than other domestic firms. In the textile industry, although FDI did not exhibit an impact on firm productivity, it did significantly depress the SOE productivity. When comparing SOEs and COEs as beneficiaries of FDI spillovers, Buckley *et al.* (2002) found that the effect of overseas Chinese capital presence on the SOE productivity was negative. The finding implied that the overseas Chinese FDI impeded the productivity of SOEs and the expansion of the FIEs invested by the overseas Chinese possibly crowded out SOEs in the industries where they competed directly. As noted in Subsection 5.1.2 (see Table 5-6), FDI from overseas Chinese was mainly concentrated in low-technology industries, such as toys, food processing and textile. In these industries, the market share of SOEs has fallen considerably following the entry of FIEs invested by overseas Chinese firms. Compared with non-Chinese MNCs, the ownership advantage of FIEs invested by overseas Chinese principally lies in their knowledge about Chinese culture and society. This advantage and accordingly less uncertainty in market transaction make overseas Chinese investors less inclined to setup IJVs with local partners. According to Buckley *et al.* (2002), the lesser proclivities on the part of overseas Chinese versus non-Chinese foreign investors to form IJVs with SOEs reduced the learning opportunities for SOEs.

To point out the industries raising competition policy concern is a hard task because of the large number of industries at different levels, the problem of market definition and the lack of reliable data. However, by simply checking some structural features of well-defined industries, we may find some potential antitrust cases for further investigation. Firm behaviour is associated with the structure of relevant domestic markets. In case that concentrated market emerged as a consequence of MNC presence, there may be more possible for them to indulge in anticompetitive practices in domestic markets (see Subsection 4.3.1). High market shares of MNCs are more likely to be associated with the possibility of anticompetitive practices. The concern on a number of industries, such as soft drinks, photo film and software, has been raised for years. All these industries have high degree of MNC presence, highlighted by the dominant market shares of a limited number of MNCs. A recent report from the State Administration for Industry and

Commerce (SAIC) reemphasised the competition issues of these industries, among others.

Photo film industry

The photo film industry in China is a typical example of industries that have been dominated by very limited number of MNCs. Two global leaders, Kodak and Fuji, have adopted different entry modes in the Chinese market: Kodak has heavily invested in China and served the market by locally manufactured products; Fuji exports to China. The only domestic player in this industry, Lucky Film, has been lucky because it is the only one in the previous seven domestic firms survived the harsh competition from Kodak and Fuji. In the mid-1980s, US$ 380 million was invested to import equipment from Kodak and Fuji respectively for two state-owned factories in Xiamen and Shantou (Fuda and Gongyuan) to serve the rapidly growing domestic market and to substitute imports. Two other state-owned factories in Shanghai and Baoding spent US$ 10 million respectively to upgrade their technology. The large amount investment did not pay off – in 1993, Fuda and Gongyuan only captured a share of 6.6 percent of China's photo film market (see Table 5-18). Facing the fierce competition from the products of Kodak and Fuji mostly smuggled into China, the business of most domestic players was in serious trouble by the mid-1990s.[19] With the heavy burden of debts, Fuda and Gongyuan were on the brink of bankruptcy.[20] In 1998, in order to 'save' the dying photo film industry, Chinese central government signed an agreement with Kodak to allow Kodak actually acquiring all domestic players except for Lucky, the state-owned factory in Baoding, which was in a relatively better situation than its domestic counterparts. According to this historical agreement, Kodak paid US$ 375 million to the Chinese parties and established an FIE (in the form of joint-stock company), Kodak China, in which Kodak took 80 percent of equity. Fuda and Gongyuan were incorporated into this IJV and Kodak agreed to invest additional US$ 673 million in the future. Another domestic player, Wuxi Aermai, was incorporated into Kodak Wuxi, a smaller IJV in which Kodak took 70 percent of equity. By non-equity arrangements, other three smaller domestic players in Shanghai, Tianjian and Liaoyuan received cash compensation from Kodak and agreed not to cooperate with other foreign firms within three years. Here joint venturing became a means of survival for domestic firms. The 1998 agreement explicitly granted Kodak a dominant position in China's photo film industry. In addition, the Chinese government agreed not to allow other foreign firms enter this market through FDI prior to the end of 2001, meaning Kodak could preempt Fuji for three years in the Chinese market. As China's photo film market became the second largest in the world in recent years, Kodak rapidly beat Fuji and developed a dominant position in this market (see Table 5-18). As suggested by Hay and Vickers (1987), the strongest foundation of market dominance comes from the government. By harnessing the

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[19] There have been many explanations for the business failures of the failures of domestic firms in the photo film industry (see, for example, SDPC, 1999, in Chinese). This was taken place in the environment in which the whole state-owned industrial sector was in trouble (see Subsection 2.1.3). The rapid changed exchange rate since mid-1980s was blamed to increase dramatically the debt burden of Fuda and Gongyuan. In early 1990s, domestic firms was facing fierce competition from low price imports (possibly dumping) – in 1994, the CIF price of Kodak was merely 1.3 US$. In mid-1990s, smuggled photo films were overwhelming the market, mainly through the agencies of Fuji and Kodak in Hong Kong. In 1997, 120 million boxes of photo film were sold in China, and the domestic production was 30 million. However, legal import of photo film was merely 70,000 boxes. (see Wu, 2000, in Chinese) An anti-smuggling campaign was launched in July 1998. However, it was after the signing of the agreement that eliminated most domestic competitors for MNCs.

[20] Fuda had accumulated lose of RMB¥ 330 million and debt of RMB¥ 3.2 billion; Gongyuan had accumulated lose of RMB¥ 310 million and debt of RMB¥ 4.8 billion.

sovereign power of the Chinese government for its own end, Kodak was able to be in an impregnable position, at least in the short run.

Table 5-18 Market share distribution in China's photo film industry, 1993 and 2003

Firm	*1993**	*2003***
Fuji	55.0	25.0
Lucky	15.9	15.0
Kodak	13.7	52.0
Konica	8.5	8.0
Fuda	4.2	/
Gongyuan	2.7	/

Note: 1) * According to a survey conducted by Kodak. 2) ** Estimated by the SAIC.

The 1998 agreement has won Kodak a solid advantage over Fuji in China's photo film market. However, more concern has been given to the future of Lucky. Lucky Film survived the 1998 agreement by which the Chinese government granted a whole market to merely one MNC, but it has to fight for survival in the shadow of Kodak and Fuji. Due to the existence of Lucky, which provides the most immediate competition, Kodak and Fuji have to sell their products much cheaper than the international prices. In 2001, a box of 36-picture Kodak film is sold at two US$ in China, much cheaper than the prices in the United States and Europe. In contrast, the price of Kodak reversal film in China is much more expensive than in the United States, possibly because Lucky does not make the product. Without Lucky, Chinese consumer may not be able to enjoy the low price of photo film again. It has been estimated that the existence of Lucky film saves consumers around RMB¥ one billion per year on film and printing paper.[21] As the only domestic firm in the photo film industry, Lucky has been strongly supported by the Chinese government. It has been identified as one of the 512 NKEs and received a series government support (see Subsection 2.1.3 for a discussion of the NKEs).

Carbonated soft drink industry

In 2001, the total sales of China's soft drink industry were RMB¥ 47.2 billion and total profits were RMB¥ 2.7 billion. There were 799 firms in this industry. Approximately 30 percent of all firms in this industry are FIEs, which accounted for 60 percent of sales and 64 percent of profits. Within the soft drink industry, the largest segment was the carbonated soft drinks, the sales of which were RMB¥ 20.5 billion, accounting for 41 percent of the total soft drink industry.

China's carbonated soft drink industry has witnessed a 'Cola war' between small domestic firms and leading MNCs since the 1980s. A number of domestic Cola brands emerged in China in the 1980s and early 1990s, but almost all of them were defeated by the international brands – Coca Cola and Pepsi Cola.[22] Domestic competitors either stopped business or were acquired by Coca Cola or Pepsi Cola through establishing IJVs. Meanwhile, in a similar segment of the soft drink industry, Jianlibao Group, a firm owned by a local government in Guangdong, rapidly grew up. In the mid-1990s, Jianlibao Group reached it high peck to become the largest domestic enterprise in China's beverage industry, ranking 123 in the SETC list of the largest industrial enterprises. Partly due to the fierce competition from Coca Cola and Pepsi Cola, Jianlibao Group rapidly declined since the

[21] See Dai Yan, 'Unlucky Lucky faces price war', *Business Weekly* (*China Daily*), February 20, 2001.

[22] The domestic Colas included Tianfu Cola, Aolin Cola, Changning Cola, Shaolin Cola, Xingfu Cola, Huangshan Cola, Laoshan Cola, China Cola, and so on.

late 1990s.[23] With the shrink of Jianlibao, Wahaha Group, an urban COE, rapidly grew up in recent years. In 1998, based on competitive advantages established in other segments of the soft drink industry such as bottled water, Wahaha Group launched its own brand, Fortune Cola, in the carbonated segment already dominated by Coca Cola and Pepsi Cola. In 1998, Wahaha produced 100,000 tons of Fortune Cola, comparing with Coca Cola's 2,200,000 tons and Pepsi Cola's 900,000 tons. In 2003, the production climbed to above 600,000 tons and Fortune Cola's market share increased from 2 percent in 1998 to 12 percent. Wahaha became the largest enterprise in China's beverage industry with totally 3.7 million tons of various sorts of drinks and revenue of over RMB¥10 billion. Wahaha has become the fifth largest firm in the world beverage industry. With new entry of more domestic Colas since the late 1990s, such as Fenhuang Cola and Yanjing Cola in addition to Fortune Cola, the 'Cola war' in China has entered the second phase in which domestic firms began to counterattack the incumbent MNCs which has dominated the market.

Aseptic packaging industry

Aseptic packaging for liquid food is a small segment of the packaging industry. Tetra Pak, the world leader in this industry, produced 105 billion packages in 2003. In China's aseptic packaging industry, Tetra Pak has become the dominant firm in the manufacture of aseptic cartons and the machines for filling them. In 2003, Tetra Pak China delivered 11.2 billion packages to Chinese customers. During 2003, China has also been Tetra Pak's biggest market in terms of processing systems sales.[24] Attention has been paid to the dominant position in this narrowly defined industry and possible abuses of dominance. Tetra Pak has been alleged abusing its dominant position in China's Aseptic packaging market.[25] The SAIC report paid special attention to Tetra Pak and asserted that Tetra Pak had an 'absolute monopoly position', controlling 95 percent of the aseptic packaging market. Tetra Pak responded with the argument that aseptic packaging in not a relevant market – aseptic packaging accounted for only 26 percent of China's market of liquid milk packing in 2002.[26]

Tetra Pak was involved in competition policy cases in the European Union. The Tetra Pak case has gone through two phases: Tetra Pak I (1988) and Tetra Pak II (1991). In its decision on 'Tetra Pak II', the European Commission charged Tetra Pak with having taking advantage of its dominant position in the aseptic sector in cartons and machines to commit abuses in the related sector of non-aseptic.[27] Some contracts required customers to buy non-aseptic machines and cartons also from Tetra Pak (tying contracts) and some required exclusive dealing. The Court of First Instance held that the contracts were illegal and the Court of Justice affirmed. Tetra Pak's dominant position in the related aseptic market, according to the Court of Justice judgement, gave Tetra Pak freedom of conduct compared with other economic operators on the non-aseptic market to maintain undistorted competition in those markets. The Court of Justice has in particular ruled that, where an undertaking in a dominant position directly or indirectly ties its customers by an exclusive supply obligation, this constitutes an abuse since it deprives the customer of the ability to

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[23] In 2002, 80 percent equity hold by the local government (Sanshui, Guangdong Province) has been sold to private investors. The transaction only valued RMB¥ 380 million, and Jianlibao Group has been transferred from a SOE to a POE.

[24] According to Tetra Pak.

[25] See, for instance, Peking University (2003, in Chinese).

[26] See Ding (2004, in Chinese).

[27] See García-Gallego and Georgantzís (1999) for a detailed discussion.

choose his sources of supply and denies other producers access to the market. Due to these alleged abuses, an unprecedented €75 million was fined on Tetra Pak. This amount will only be surpassed by the proposed fine of €497 million on Microsoft for illegally squelching competitors.

5.2.5 FDI and Competition: Effects of Foreign M&As

Cross-border Merger and Acquisitions (M&As) have substantially gained importance in different entry modes of FDI since the early 1990s (see Subsection 2.3.1). In China, however, greenfield investment is still the dominating mode of entry. Equity Joint Venture (EJV), Contractual Joint Venture (CJV) and Wholly Foreign-Owned Enterprises (WFOE) have been the main legal forms of market entry and Foreign Invested Joint-Stock Company (FIJSC) provides an additional form of FIEs (see Subsection 2.3.2).[28] China's FIE regime is changing to further stimulate inward FDI and its WTO accession has accelerated these changes. In addition to investing in China through the traditional means of EJC, CJV and WFOE, foreign firms may now purchase operating Chinese business and may restructure their existing investment in China through mergers, spin-offs and holding companies that were impossible a few years ago.[29]

China's FDI regime has long been hostile to M&A transaction. For a long period of time, there had been no specific provisions on foreign M&As in China. That regime is changing both to accommodate the need to restructure SOEs and to further stimulate inward FDI. The Chinese government has been trying over the last several years to create a clearer roadmap for foreign M&A players looking at Chinese target firms other than the traditional entry modes. The Company Law provides the basic legal provisions for mergers and divisions between companies. The Securities Law and a series of regulations on China's stock market provide legal provisions for the acquisitions of listed companies. The 'Provisions on Merger and Division of FIEs' provides provisions on the mergers between FIEs or between an FIE and a domestic company. The 'Interim Provisions on Domestic Investment by FIEs' regulates FIEs' domestic investment projects, including the establishment of new firms and the acquisition of existing firms. In addition to these, a series of specific regulations, which covers acquisition of different ownership categories of enterprises, have been promulgated by different government agencies including MOFTEC, SETC, SAIC, MOF, SAT, People's Bank of China (PBOC), China Securities Regulatory Commission (CSRC) and State Administration of Foreign Exchange (SAFE) (see Table 5-19).

[28] Certain forms of international joint ventures can be considered as foreign mergers which may trigger antitrust review.

[29] See Norton and Chao (2001).

Table 5-19 Regulations on (foreign) M&As

Regulation	*Effective year*	*Issuing agency*	*Target*
Several Provisions on Changes in Equity of Investors in FIEs	1997	MOFTEC and SAIC	CJV, EJV, WFOE and FIJSC (non-listed share)
Provisions on Merger and Division of FIEs	1999 (revised effective in 2001)	MOFTEC and SAIC	CJV, EJV, WFOE and FIJSC
Interim Provisions on Domestic Investment by FIEs	2000	MOFTEC and SAIC	CJV*, EJV*, WFOE* and FIJSC
Notification on Relevant Issues Regarding the Transfer of State-owned Shares and Legal Person Shares of Listed Companies to Foreign Investors	2002	CSRC, MOF and SETC	Listed companies (non-listed share)
Administrative Measures on Acquisition of Listed Companies	2002	CSRC	Listed companies
Interim Provisions on the Administration of Domestic Securities Investment by Qualified Foreign Institutional Investors (QFII)	2002	CSRC and PBOC	Listed companies
Interim Provisions on the Utilisation of Foreign Investment to Restructure State-owned Enterprises	2003	SETC, MOF, SAIC and SAFE	SOEs (excluding listed companies and financial institutions)
Interim Provisions on Mergers and Acquisition of Domestic Enterprises by Foreign Investors	2003	MOFTEC, SAT，SAIC and SAFE	Domestic enterprises

Source: Davies (2003).
Note: * In the form of limited-liability company.

The three regulations promulgated by the CSRC in 2002 provide procedural provisions for the acquisition of listed companies. However, the M&A regulations do not actually cover mergers, but are confined to acquisitions, including equity acquisition and asset acquisition (Tan, 2004). The 'Interim Provisions on the Utilisation of Foreign Investment to Restructure State-owned Enterprises' promulgated jointly by the SETC, the MOF, the SAIC and the SAFE in 2002 provided provisions for foreign M&As of SOEs (excluding listed companies and financial institutions). This regulation prescribes in principle that foreign M&As should not lead to market monopoly. The 'Interim Provisions on Mergers and Acquisition of Domestic Enterprises by Foreign Investors' promulgated jointly by the MOFTEC, the SAT, the SAIC and the SAFE in 2003 provided more detailed provisions for foreign M&As of domestic firms. The Article 19-22 of this regulation provides detailed merger control provisions. The MOFTEC and the SAIC are identified as antitrust screening agencies. According to the regulation, foreign investors must report large M&As to these authorities before sealing a deal. According to Article 19, the notification thresholds are: 1) the revenue in Chinese markets of one merger party is above RMB¥ 1.5 billion; 2) more than 10 firms in the relevant industry are acquired within one year; 3) the market share of one merger party is above 20 percent; or 4) the market share of one merger party will be above 25 percent after the merger. According to Article 20, in case that the MOFTEC and the SAIC believe the M&A may 'lead to excessive concentration, hinder proper competition, or harm consumer interests', they would held public hearing, which involves relevant government agencies, institutions, firms and others, to decide whether permit the M&A.

Because of the changing policy environment, foreign M&A via equity transfer has begun to emerge as a practical choice to enter China for foreign firms in recent years. Prior to the clarification of a legal framework of foreign M&As in 2002 and 2003, a large number of foreign M&As have already taken place via offshore transaction, equity acquisition of listed companies (mainly in international stock markets or B-share markets), and other forms of M&As. If we use a relatively broader definition of M&A, which include some specific forms of joint venturing, M&As have long been utilised by foreign

firms to enter the Chinese market since the early 1990s. A number of foreign firms have used serial M&As to control a significant share of specific industries. The Kodak merger of China's virtually whole photo film industry, as discussed in Subsection 5.2.4, was a typical case. Another typical example is Zhongce's acquisition (via joint venturing) of seven SOEs in China tire industry in the early 1990s – seven out of 22 large-scaled SOEs in this industry has been controlled by Zhongce, accounting for 14 percent of the total production.[30] The top priority of merger control for competition authorities is to prevent firms that already dominate their markets from acquiring their competitors (see Subsection 3.2.2). However, for a long period of time, merger control had not been established in China and incorporated into the FDI regime. Although cannot buy equities from the shareholders of SOEs, foreign firms actually acquired a large mount of SOEs via asset acquisition or joint venturing, without notice by relevant government agencies with antirust concern. In the Kodak case, to the extreme, almost a whole industry has been granted to one MNC in 1998. Even in 2003, after the promulgation of the two regulations with detailed merger control provisions (see Table 5-19), a 'milestone' equity transfer was cleared, in which Kodak bought 20 percent equity of Lucky, its only domestic competitor in China. By this acquisition, Kodak eliminated one of its two competitors in China and (further) preemptied another – Lucky agreed not to establish IJVs with other foreign firms within 20 years.

5.3 Methodological Considerations for Case Studies on Specific Industries

In order to benefit adequately from FDI, as noted in Section 4.2, it is important to ensure the efficient functioning of the market, which depends on the contestability of the markets and the extent and nature of market competition. As MNCs play an increasingly important role in China's industrial development and economic growth, it becomes more important to ensure the efficient functioning of markets. The previous two sections in this section document the distribution of FDI in China's manufacturing industries and generally assess the FDI impact on the development of them. In particular, we preliminarily assess the FDI effect on competition by examining some specific industries with the most significant MNC participation. To extend this preliminary assessment two approaches are available: first, cross-sectional analysis of a large number of industries testing for a relationship between FDI and a measure of competition, usually market concentration; second, detailed case studies on specific industries.

Models tested for a relation between FDI and market concentration have typically involved a cross-sectional equation with a measure of FDI as one of the determinants of concentration (see Subsection 4.2.2). This standard cross-sectional analysis can prove the association of FDI with market concentration. However, several critical problems exist with this approach. First, a cross-sectional study is usually based on the standard industrial classification, ignoring the problem of 'relevant market' and neglecting some prominent differences among industries. Shepherd (2000) has pointed out the poor fits between the US Census Standard Industrial Code 4-digit industries and properly defined markets.[31] This is the same for China's industrial classification standard, the ISIC, and any other

[30] See Wang *et al*. (1999, in Chinese) for a detailed discussion of FDI in China's tire industry.

[31] See Shepherd (1970) for a detailed discussion on the serious errors in defining relevant markets for the US Census.

industrial classification standard for census. Secondly, the cross-sectional studies use market concentration as a measure of competition and neglect the contestability of the markets and other important aspects of market competition. Thirdly, the cross-sectional approach cannot clearly define the causality or the direction of influence between the two variables. Does FDI cause higher industrial concentration or is it attracted to concentrated market? If FDI cause industrial concentration, how does FDI do so? The case study approach can avoid these problems and provide insights relevant recommendations for policy makers. The positive correlation tested by the cross-industry studies, if carefully interpreted and supplemented by other information, can be used as a reasonable starting point for examining aspects of the relationship between inward FDI and market structure. However, as pointed out in Section 4.3, the actual relationship should be examined on a case-by-case basis by the intra-industry studies with sufficient consideration of the firm practices and institutional factors. In addition, as suggested in Subsection 2.2.3, to evaluate the effectiveness of a *de facto* competition policy, a reliable approach is to examine the degree of market competition, namely to evaluate of the effectiveness of the *de facto* competition maintenance mechanism in different industries. Thus our empirical research in the next two chapters relays on case studies exploring the impact of FDI on market competition and industrial development.

Market delineation

The first problem when studying market competition is the correct definition of the relevant industry or market. This problem will always pose questions for the policy implications of the cross-sectional studies on market competition based on the standard industrial classification. As noted in Subsection 4.2.1, the practical questions of market delineation focus on two dimensions: product space and geographic area. First, a relevant industry should include firms that sell a particular product or collection of products and a properly defined industry should contain all substitutes within the industry. The finer the industry definition (greater number of products included) is, the greater the concentration measure is likely to be. The problem is how to clarify the boundary of an industry in the complicated horizontal and vertical structure of modern economy to clearly define a relevant industry. Secondly, geographical consideration is important when studying industrial structure. The relevant market may be local, regional, national or international scale. The national concentration ratios tend to be small for the industry that consists of only local monopolists. For an internationalised industry, the national concentration ratios tend to be big. In our competition analysis in Part III, the geographical scope of relevant market is fixed to national level, leaving the only first concern relevant to market delineation. If markets are defined too narrowly, meaningful competition may be excluded from the analysis. On the other hand, if markets are too broadly defined, the degree of competition may be overstated.

The definition of the relevant market is crucial when assessing market dominance, which is a central concept in antitrust enforcement. Theoretically, a dominant firm's market power depends on the market elasticity of demand, the firm's market share and the elasticity of supply of the competitive fringe. The calculation of the market share and the consideration of the two sorts of elasticity presume that the definition of the relevant market is a major premise. Market definition is of particular importance to the economic analysis of competition because it is the first step to determine the degree of market power firms may enjoy. Clearly, market shares of firms depend on market definition. A broader definition of the market yields lower market shares and, therefore, implies less market power than a narrower definition. The demarcation of market boundaries has thus a strong

impact on the outcome of an antitrust case, either a merger or an abuse of market dominance case.[32] In the preceding discuss of the Tetra Pak case in China, for example, in case that the relevant market is defined as the aseptic packaging industry, Tetra Pak is a dominator with over 90 percent of market share; however, if the relevant market is delineated as liquid packing, then the market share of Tetra Pak is much lower.

In antitrust practice, market definition was usually discussed in a case-by-case basis. A number of theoretical and empirical studies have tackled the problem of market definition, but a general consensus has not yet emerged. Market definition continues to cause problems even in the United States, which has detailed guidelines for this issue since the 1980s (see Subsection 8.3.3). The traditional approach of defining markets is based on demand substitutability and emphasises the horizontal dimension of markets. As technological advances make markets increasingly interrelated, the boundary between up- and down-stream industries blurred. The increasing economic globalisation also blurred the geographical boundaries between markets. Facing these developments, competition authorities cannot use the current concept of the antitrust markets to effectively assess competition and market dominance in markets (Canoy and Weigand, 2002). By putting the idea of horizontal competition centre stage, the concept of antitrust market ignores business reality and overlooks how the market is perceived by those doing business in it, namely firms and their customers (Steiner, 2000). The proper definition of the relevant antitrust market can be particularly difficult if the market environment is very dynamic such as ICT industries and markets are interrelated.[33] Facing these changes in business environments, the current concept of antitrust market is not suitable to evaluate competition in evolving and integrating markets.

Selection of case industries

To select a limited number of industries to study, several issues should be considered. Defining the relevant market carefully is the first concern in the selection of case study targets. As suggested earlier, a wrong definition of market leads to measurement error. Too broad or too narrow market definitions lead to understating or overstating market share and concentration measures. It is a typical mistake to take the census standard industrial code as the standard of industry classification. A more rational way is to conform to some tradition of market analysis in the business community, which usually focuses on classification of products.

The analysis of FDI distribution in Chinese manufacturing industries in Subsection 5.1.2 provides a list of two-digit industries with significant foreign present. Considering the scale and accordingly the relative strategic importance of the industries and concerning the significance of MNC presence in them, only a very limited number of industries stand out as 'ideal' targets for our case studies. In terms of the amount of FDI inflows, the automotive industry has been among the largest FDI recipient industries (see Table 5-4). The analysis of the FIE contribution to China's two-digit manufacturing industries in 2000 highlights a striking feature of the FIE profitability in different industries. In the sector of transportation equipment, the FIE profitability was more than twice of the industrial total, implying that the FIEs were more than three times profitable than domestic firms – the highest in all two-digit industries (see Table 5-20). Automotive manufacturing is the largest

[32] See e.g. Posner (1976), Harris and Jorde (1984), Pitosky (1990), White (1993), Simons and Williams (1993), and Office of Fair Trading (1998) for detailed discussions.

[33] See also Pleatsikis and Teece (2001).

segment of the transportation equipment sector, which includes also railway equipment, motorcycle manufacturing, shipbuilding and aerospace & aviation. The automotive manufacturing segment has attracted almost all FDI in this sector, because other segments of railway equipment, shipbuilding and aerospace & aviation are generally closed to foreign entry. Therefore we can conclude that high FIE profitability has resulted from that in the automotive industry. FDI inflows in the automotive industry have been concentrated in the passenger car industry, which is a special case with extremely high level of FIE profitability. Although profitability alone is not sufficient evidence of market power, the high level of profitability in China's passenger car industry and the persistence of it, in addition to high degree of concentration (see Subsection 6.2.3 for a detailed discussion) have provided strong evidence of the existence of market dominance in this industry. The question lies in how to measure the degree of market dominance and to investigate the sources of it.

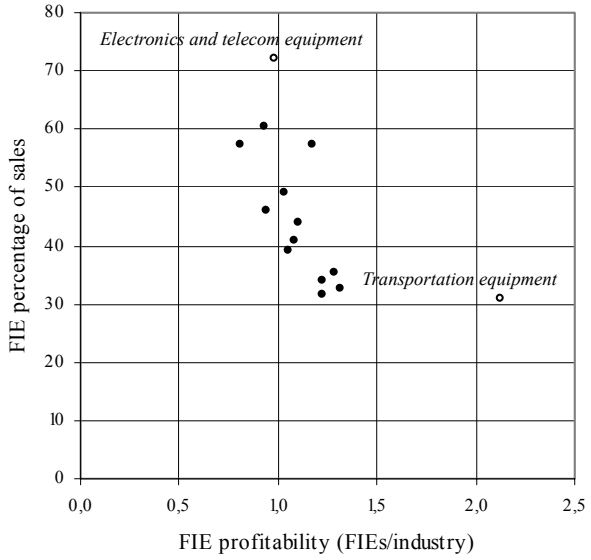
Table 5-20 Profitability of FIEs in different industries in 2000

Industry	*FIE percentage*		*Profitability (percent)*		
	Sales	*Profits*	*Industry*	*FIEs*	*FIEs/industry*
Transportation equipment	30.85	65.64	3.72	7.92	2.13
Printing and record medium reproduction	32.52	42.97	8.05	10.63	1.32
Chemical fibber	35.50	45.88	5.33	6.88	1.29
Papermaking and paper products	31.52	38.58	3.96	4.85	1.22
Electric equipment and machinery	33.86	41.32	4.32	5.27	1.22
Instruments and office machinery	57.48	67.18	4.50	5.26	1.17
Plastic products	43.99	48.46	3.94	4.34	1.10
Food manufacturing	40.81	43.88	4.05	4.35	1.08
Metal products	39.27	41.35	3.02	3.18	1.05
Garments and other fabric products	49.05	50.37	4.05	4.16	1.03
Electronics and telecom equipment	72.21	70.45	6.75	6.59	0.98
Furniture manufacturing	45.96	42.98	4.63	4.33	0.94
Cultural, education and sports products	60.46	56.38	3.88	3.61	0.93
Leather, fur and eiderdown products	57.26	46.39	2.82	2.28	0.81
Total Industrial sector	26.79	29.19	5.22	5.69	1.09

Source: Jiang and Li (2002, in Chinese).

With regard to both FDI significance and FIE profitability, Figure 5-2 positions a number of two-digit industries (see also Table 5-7 and Table 5-8). The electronics & ICT industry is the industry with the highest amount of FDI inflows (see Table 5-5) and therefore can be identified as another appropriate case to study. The largest FIEs have been concentrated in the automotive and the electronics & ICT industries (see Table 5-16). In addition, Table 5-17 shows that these two industries are also among those that hosted China's largest manufacturing SOEs in recent years. Hosting both the largest MNC affiliates and the largest SOEs, these two industries present the typical arena for the 'new competition'. Due to the fact that the electronics & ICT industry contains a large number of segments with complex horizontal and vertical structure, we choose to further study a specific segment – the telecom equipment industry. As a typical high-technology sector, this industry has been subject to proactive policy support directed at high-technology industries since the mid-1990s (see Subsection 5.1.3).

Figure 5-2 Positioning industries according to FIE percentage of sales and FIE profitability



Source: Jiang and Li (2002, in Chinese).

The studies of Mckinsey Global Institute (2003) provided evidence for the generally positive effects of FDI on industrial development in China's automotive and consumer electronics industries. Table 5-21 summarises the FIE contribution to the two two-digit industries to which the selected targets of our case studies belong to. Although focusing on the narrowly defined industries of passenger car and telecom equipment, we will explore the overall industrial environments of the automotive industry and the electronics & ICT sector. The narrowly defined segments are closely interrelated with the overall industrial context. For instance, China's passenger car industry has been grew out of the industrial environment in which SOEs principally focused on the production of trucks and had to rely on MNCs in terms of large-scale production of passenger cars. The industrial policy has been targeted at the automotive industry at large rather than at the passenger car industry in specific. Both the automotive industry and the electronics & ICT sector have been identified as pillar industries and subjected to proactive industrial policies. Both industries have attracted a large amount of inward FDI and have strong MNC presence. Both industries have hosted the largest manufacturing domestic firms, mainly SOEs and semi-SOEs. However, with these similarities, the consequences of FDI on industrial development have been quite different. The case studies on these two industries will compare these differences, explore the causes of these differences, and generalise the (competition) policy implications of this comparison.

Table 5-21 Contribution of FIEs in 2000: comparing two selected sectors

Item	*Percentage of FIEs vis-à-vis industrial total*		
	Transportation equipment	*Electronics and telecom equipment*	*Total industrial sector*
Assets	/	37.44	10.18
Industrial output	30.29	71.57	27.39
Sales	30.85	72.21	26.79
Value-added	30.84	65.39	23.98
Profits	65.64	70.45	29.19
Value-added tax	38.74	57.49	20.05

Source: Jiang and Li (2002, in Chinese).

Measuring competition in industries

It is difficult to measure the degree of competition in a give industry, let along to assess the impact of FDI on competition. The core concept used in practice is market structure, which is central to the assessment of competition (see Subsection 4.2.1). In addition to the degree of market concentration, the analysis of market structure may also focus on the market shares of large firms. By examining the determinants of market structure (in terms of market share distribution), we can determine whether foreign presence is associated with higher degree of market dominance. We can also investigate consequences of market structure, such as the level of prices (or the price-cost margin) and the persistence of profitability. Furthermore, by examining the behaviour of firms, we can explore whether firms are engaged in anticompetitive practices. High concentration facilitates the abuse of market dominance and anticompetitive practices, which are of major interest for competition authorities. On the other hand, certain conduct of firms can explain the sources of their market dominance. For example, the dominant position of Kodak in China's photo film industry, as discussed in Subsection 5.2.4 and 5.2.5, has been largely achieved by its serial acquisition of domestic competitors. Our general assessment of the FDI impact on competition in several selected industries in Subsection 5.2.4 principally follows the third approach to analysing competition as suggested in Subsection 4.2.1, namely observing behaviour of firms. In case studies in the next two chapters, all the three approaches will be adopted to provide a comprehensive account of competitive situations in specific industries and to explore the impact of FDI on market competition and industrial development.

Market structure is a different concept to competition, but the concept of market structure provides a basic theoretical structure for the measurement of the degree of competition in a given industry. Market structure comprises several elements (see Subsection 4.2.1). Our analysis will focus on the following: 1) market share distribution and market concentration, 2) market contestability (entry barriers), and 3) other aspects such as the degree of product differentiation. Entry barrier is central for our market structure analysis because of following reasons. First, the contestability is an important, if not the most important, aspect of market structure. As noted in Subsection 4.2.3, the theory of contestable markets suggests that an industry consisting of one or a few firms may be efficient because incumbent firms will maintain prices close to the competitive level due to the threat exerted by potential entrants. At least as early as Adam Smith, it has been generalised that under the condition of free entry and exit, resources will be so efficiently allocated that they yield the same rate of return across industries (see Section 3.1). Secondly, as noted in Subsection 2.1.2, rapid entry of a new private sector has been a defining feature of industries in a transition economy. As a variant of the more general process, the Chinese case shows that the key feature of the process of enterprise development was entry, rather than privatisation *per se* (Naughton, 1994). Thirdly, new

competitive forces have been injected into the Chinese economy in the process of economic transition. In the industries where a new competitive force has been introduced from abroad via FDI, competitive situations are more complex than the 'closed' industries. Thus exploring the effects of new entry is crucial to answering the central research question of this study: how the introduction of a new competitive force through FDI inflows influences the development of Chinese industries.

Contextualisation is emphasised in our analysis of competition and market structure. In a context of transition economy, the factors influencing the degree of competition in an industry may be quite different from those in the standard industrial organisation literature. Chapter 1 has identified the 'inherent characteristics' in the dynamic context of economic change in China during the reform period. For studies at the industry level, to investigate the determinants of market structure (and possibly market dominance), a deep understanding of the specific industrial context is essential. In terms of entry barriers, for instance, there is no one simple, agreed system of typology of market variables that may provide impediments to the entry of potential firms. In some industries in China's transitional economy, regulatory restrictions may probably be the most significant barriers to entry.

We put our analysis of the determinants of market structure in a dynamic process of industrial evolution. We will analyse the evolution of an industry and seek to identify what shaped the structure of it and to explore which factors influenced the degree of market competition. Emphasis is put on the effects of the foreign entry on the evolution of market structure. In the transitional economy of China, government policy may be an important factor influencing market structure. Regulatory restrictions may be the most important source of structural entry barriers and industrial policy may play a central role in the development of some industries. We pay specific attention to the role of government policy in the formation of industrial structure and the evolution of it. The global context with the expending international production system is also important to our analysis when we study FDI and business activities of MNCs in China.

A dynamic view is crucial to empirical studies. The traditional S-C-P paradigm of industrial organisation considers structural characteristics often change slowly and can be regard as fixed over time. The emphasis is therefore on the structure of industry and how it influence conduct and performance. However, it is possible that conduct and performance can have feedback effects on the structure of an industry. For instance, Philips (1976) pointed out that performance itself can leads to changes in conduct and structure and Clarke (1985) gave the example that R&D expenditure affecting costs and demand, which may influence industrial structure in the long run. The effects of performance and firm conduct on industrial structure have led to a shift away from the presumption that structure is the primal variable in driving the competition process. Instead, many researchers argued that the strategies and business practices of individual firms are important in determining industrial structure and thus the S-C-P process (cf. Scherer and Ross, 1990). For the 'new industrial organisation', firms were not seen as passive entities alike; instead they were treated as active entities that often follow different strategies.

Both Schumpeter and the Austrian School recognised that competition is a dynamic process (see Section 3.1). The S-C-P approach provides us the theoretical and conceptual framework for market structure analysis, but the static character of it will probably limit the analytical power. Geroski (1990b) argued that the S-C-P approach to examining competition provides only a snapshot at some point in time and does little to explain the process of competition. Rather than the traditional approach, our empirical studies employ a longitudinal case study approach, which is the soundest way to determine the effects of

MNC entrants on competition and industrial development over time. Longitudinal analysis will enable us to model the dynamic process of market competition and to take into account the dynamics of entry strategies, government policies and the interactions between them. Not only market structure and its determinants, but also the strategic decisions and innovation activities of firms, as well as the multi-faceted progress of an industry will be considered.

6 Passenger Car Industry: FDI and the Determinants of Market Structure

The automotive industry remains one of the most important industries in the modern economy and contributes a prominent share of total GDP and employment. Facing relatively saturated markets in North America, Europe and Japan, car-producing Multinational Corporations (MNCs) are looking to grow elsewhere and China becomes the largest emerging automotive market. In 2003, China ranked fourth in the largest automotive manufacturing countries. Nevertheless, China's passenger car industry is still in an infant stage. The Chinese government seems to pursue a 'third road' of industrial development through which the efforts of domestic firms and MNCs are combined. Inward Foreign Direct Investment (FDI) helped reshape the industry during the reform period and this process accelerated after China's accession to the World Trade Organisation (WTO). During a relatively short period of time, the national market developed rapidly against a background of the fastest growing economy in the world. Most leading car-producing MNCs have invested in China, primarily in the form of International Joint Ventures (IJVs) – consequence of government policy constraints. Entry barriers and trade barriers imposed by the government largely hampered the function of the competition mechanism. Only in recent years, this pattern of industrial policy characterised by the 'twin barriers' was undergone significant revision. In this special context, the existence of market power and the lack of competition led to negative consequences in various dimensions of industrial development and the positive impact of inward FDI was largely constrained. China's passenger car market has witnessed high degree of market dominance and consequently high level of prices and profits. It seems that State-owned Enterprises (SOEs) and MNCs have collaborated though IJVs to share the high manufacturing profits guaranteed by restrictive government policy. The slow improvement of the domestic technological capability has highlighted the failure of the 'market for technology' strategy in this specific sector. Although the industrial policy claims to encourage exports, the aim of establishing international competitiveness has not been realised. The seemingly dispersed market structure and the apparently large number of firms concealed the problem of the lack of competition, as the issue of relevant market was not considered by policy makers and the automotive industry was taken as a whole when market structure was concerned.

This chapter is organised as follows. Section 6.1 examines China's automotive industry in general and passenger car industry in particular and summarises some main characteristics of the industrial context. FDI inflows and market competition in the passenger car market are depicted in Section 6.2 and evidence for the lack of competition and the existence of market dominance in the passenger car industry is provided. To explore the policy implications of the lack of competition and its consequences, Section 6.3 analyses the determinants of market share in China's passenger car industry and develops hypotheses. The determinants, such as entry order and investment scale, reflect

the qualification of the impact of interaction between government policy and MNC strategy. Section 6.4 describes the empirical methodology, tests the hypotheses and presents the testing result. By tracking the determinants of market share achievements of IJVs, the econometric study in the last section investigates the source of market dominance in China's passenger car industry. We investigate what are the most important determinants of the business performance of MNC affiliates in China's passenger car industry and how market structure is affected by the interaction between MNC strategy and government policy, using the analytical framework developed in Subsection 4.3.3. Using market share as an approximate, this chapter identifies the sources of market power of IJVs.

6.1 China's Automotive Industry: The Industrial Context

For studies on Chinese industries, a deep understanding of the specific industrial context is of crucial importance. In the case of China's automotive industry, the rapid demand growth, production development, structural adjustment and policy change in a relatively short period provide a uniquely dynamic industrial setting for the type of studies we propose to undertake in Section 5.3. By examining the industrial context of China's automotive industry in general and passenger car industry in particular, this section provides the foundation for the analysis of the relationship between FDI and industrial development as well as the further inquiry for the sources of market dominance.

6.1.1 Industrial Evolution Process

After the founding of People's Republic of China, the Chinese government attached great importance to building an automotive industry. Based on the help from the former Soviet Union, the First Auto Works (FAW) was set up in Changchun in 1956. As a result of the decentralisation of central planning power in a radical industrialisation program – the Great Leap, many local governments actively invested in the automotive industry. In 1958, there were more than 200 factories trial-producing motor vehicles. Due to the fact that many factories were not qualified for motor vehicle manufacturing, only a small number of them survived. In 1960, the total output of motor vehicles exceeded 20 thousand. In the mid-1960s, China, relying on its own efforts, began to build the Second Auto Works, the later Dongfeng Motor Corporation (DMC). Local assemblers proliferated again from 1967 to 1970, the result of local initiatives unleashed by the breakdown of the central government control caused by the Cultural Revolution and by the shortages of motor vehicles. In 1980, the production of motor vehicles increased to 222,000, principally medium-sized trucks.[1]

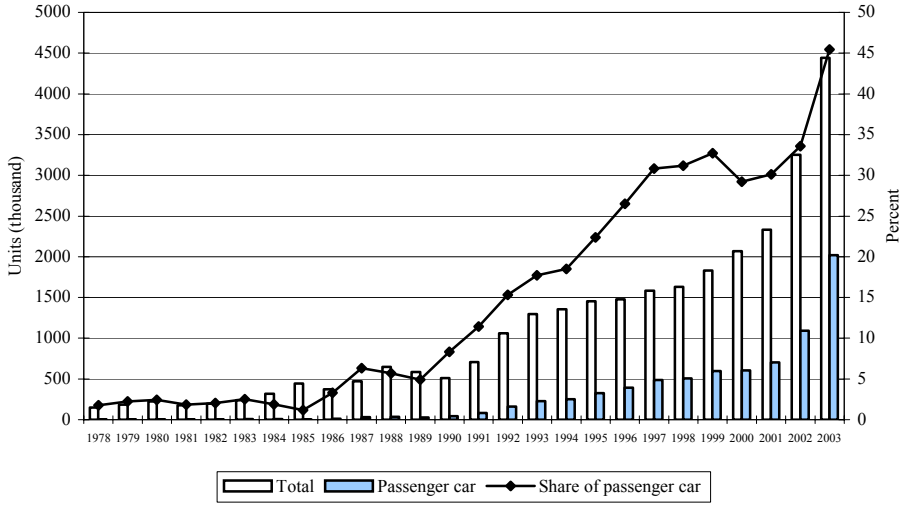
In the pre-reform era, China's automotive industry experienced slow development in a planned economy, leaving an extremely decentralised industrial structure. In 1979, there were 130 assemblers making 186,000 motor vehicles. Most assemblers produced only hundreds of motor vehicles. The most important firms are FAW and DMC, which mainly produced trucks. In 1980, over 75 percent of the motor vehicle production is commercial vehicles, mostly medium-sized trucks, while the share of passenger cars was less than 2 percent. At that time, the industry was characterised by shortages of heavy trucks and light vehicles and by the almost non-existence of car production. Product diversification,

[1] See Editorial Board (1996, in Chinese).

therefore, became a significant element in the government-led restructuring. During the first half of the 1980s, product diversification focused on heavy trucks and light vehicles to solve the problem of 'the lack of heavy- and light-duty vehicles'. In the mid-1980s, the Chinese government adjusted its strategy to give a priority to passenger car, initiating the development of China's passenger car industry.[2] The restructuring has resulted in a rapid production growth of the passenger car industry, which is the focus of this chapter.

Since the early 1980s, total automotive production has increased rapidly and the production of motor vehicles has gradually shifted from highly controlled under the central planning to market-oriented. The reform period witnessed the all-round development of China's automotive industry, particularly in the passenger car segment. In 1990, the total production of passenger cars in China was merely 42.4 thousand. In 2002, the production exceeded one million. The share of the passenger car in total automotive production rose from 2.4 percent in 1980 to 33.5 percent in 2002 (see Figure 6-1). Another important structural change took place in the demand side – the private buyer took increasing share in the total automotive consumption. In the process of rapid industrial development in the reform era, other important SOEs besides FAW and DMC developed rapidly. These SOEs mainly include Shanghai Automotive Industry (Group) Corporation (SAIC), Beijing Automobile Industry Corporation (BAIC), Guangzhou Automobile Group Co., Ltd. (GAG) and Tianjin Automotive Industrial Corporation (TAIC).

Figure 6-1 China's automotive production, 1978-2003



Source: China Association of Automobile Manufacturers (CAAM).

[2] In 1985 and 1986, China imported 150,000 passenger cars, almost nine times the domestic production over the same period. The sudden increase of car imports raised concerns over the drain on the country's foreign currency and made the development of passenger car production imperative.

In addition to product diversification, another central concern of the Chinese government was to consolidate the highly fragmented industry. In planning to build up the production capacity of passenger cars, the central government aimed to limit the number of new entrants in order to avert the traditional over-scattered pattern in the automotive industry. Totally eight car production bases were founded. In 1988, based on the evaluation of industrial experience and technological capability as well as general regional balancing consideration, the government sanctioned three major car assemblers, FAW, DMC and Shanghai Volkswagen, and three smaller ones in Beijing, Tianjin and Guangzhou. This was known as the 'Three Big and Three Small' Strategy.[3] Although the control on market entry was strictly implemented, two firms with defence industry background obtain special permission to produce compact cars in the early 1990s. This added 'Two Mini' to the 'Three Big and Three Small'. The efforts to limit new entries and thus to consolidate the fragmented industry was confirmed by the later formulated industrial policy for the automotive industry.

As an industry that had heavy legacies of planned economy, China's automotive industry has been subjected to strong government intervention. The industrial evolution process has been largely led by government policy, which attempted to consolidate a highly fragmented industry and to promote rapid industrial development. The relevant trade, investment and industrial policies have undergone gradual revision, reflecting the dynamic interactions among the government, SOEs and MNCs. The policy changes have reflected the government's changing attitude towards the role of state intervention as well as the problems and prospects of industrial development. The acquisition of foreign capital and technology has played an important role in the development of the automotive industry during the reform period. FDI has played an important role in the process of industrial evolution and structural adjustment. IJVs established by SOEs and MNCs have dominated the passenger car market. However, the role of FDI was limited because market competition was restricted mainly by government policy (see next two subsections for detailed discussions).

For a long period of time, entry restriction and market fragmentation hampered competition in the automotive market, while high tariffs prevented international competition. The situation gradually changed after the WTO accession, as new international rules were increasingly complied with and government policies adjusted accordingly. As policy environment significantly changed following China's WTO entry, a new phase of industrial development began and the growth of automotive production accelerated. The development of the automotive industry has been heated up, with the structure of the industry dramatically changed. In 2001, China produced 2.33 million motor vehicles, including 703.5 thousand passenger cars. In 2002, the two numbers increased respectively to 3.25 and 1.09 million. The growth in 2003 was even faster, principally driven by the explosive growth of passenger car production – the production of motor vehicles increased to 4.44 million, including 2.02 million passenger cars. In 2003, China produced more motor vehicles than all but three other nations. The percentage of passenger cars in total automotive production increased to 45 percent. Nevertheless, China's passenger car market is still in the early stage of industrial development. Current

[3] In a meeting held by the State Council in August 1987, FAW, DMC and SAIC has been identified as three car production bases. In 1988, the State Council declared the 'Three Big and Three Small' strategy in 'Notification on the Strict Control of Passenger Car Production Locations'. In a later national meeting on automotive industry held in Shanghai in 1991, the strategy of 'Three Big and Three Small' was re-stressed.

trends predict that China may become the world's second largest automotive market as early as in 2005. Automotive demand – promoted by increasing income, new distribution channels and the reduced regulation after the WTO entry – will further increase as the Chinese economy continues to grow rapidly. Rapid economic growth and a large population with a very low penetration of passenger cars suggest that demand is likely to grow significantly. As China's 'Tenth Five-year Plan for Automotive Industry' predicted, passenger cars will gradually enter ordinary families and become the driving force for the growth in automotive demand.

6.1.2 Entry Restrictions and Industrial Policy

The combination of industrial internationalisation and government intervention is the driving force for the evolution of the global automotive industry. National state has long been considered as an important force in shaping the industry, interacting with and counterbalancing global forces (Dicken, 1998). For instance, under strong government intervention and regulation in Western Europe, the strategies of Japanese automotive assemblers and components suppliers behaved different from those in the United States (Jones and North, 1991; Sadler, 1994). Japan itself is another typical example for the role of government policy in the development of automotive industry. The Japanese Ministry of International Trade and Industry was particularly successful in sheltering the Japanese automotive industry from foreign competition at an infant stage (Cusumano, 1985). In developing countries such as Brazil, South Korea and India, strong government regulation is a common feature in the automotive industry (e.g. Chaudhuri, 1989; Harwit, 1995; Dicken, 1998; O' Brien and Karmokolis, 1994; Tuman and Morris, 1999).

In the early years of China's economic transition, the central government still maintained a strict control over the automotive industry (Yang, 1995). In the reform era, the central control has gradually reduced, but a legacy of central planning still remained. SOEs in this industry were under municipal supervision and the IJVs had prominent state participation in equity. One of the most important reforms in China's automotive industry is the transformation of the central administrative system (see Table 6-1). Until the 1998 government reform, the automotive industry had been mainly under the supervision of the Ministry of Machinery Industry (MMI) or China National Automotive Industry Corporation (CNAIC), a company implementing government authority. The China Automotive Industry Federation was the central authority during the 1987-1990 period and then transferred into the China Association of Automotive Manufacturers (CAAM) in 1990. In the 1998 government reform, the Chinese government abandoned the function of SOE management and the scope of industrial management further decreased (see Subsection 2.1.1). Accordingly, the Bureau of Automotive Industry, together with the MMI, was dissolved, which indicated the end of direct SOE management in this sector. However, it did not mean a complete disappear of government control. The State Administration of Machinery Industry (SAMI), a much smaller bureau under the State Economic and Trade Commission (SETC), took over part of the functions of the MMI. Although no specific government agency established for the administration of the automotive industry, the SETC had the authority over several important facets of industrial development. Most importantly, the SETC has the authority to control market entry. A strict entry control was implemented by the SETC through a system of product catalogue management. As a means of central planning, this system also provided detailed administrative screening at the product level, deterring the firm decision on the development of new products. This system even led to the problems of rent seeking and illegal trade of product licenses. The

approbation of foreign investment projects must go through a screening agency either on central or provincial level, depending on the scale of investment. The larger the investment is, the more rigorous the control and the more complicate the screening process will be. In the new round of government reform in 2003, the regulatory function of the SETC on the automotive industry was transferred to the National Development and Reform Commission (NDRC).

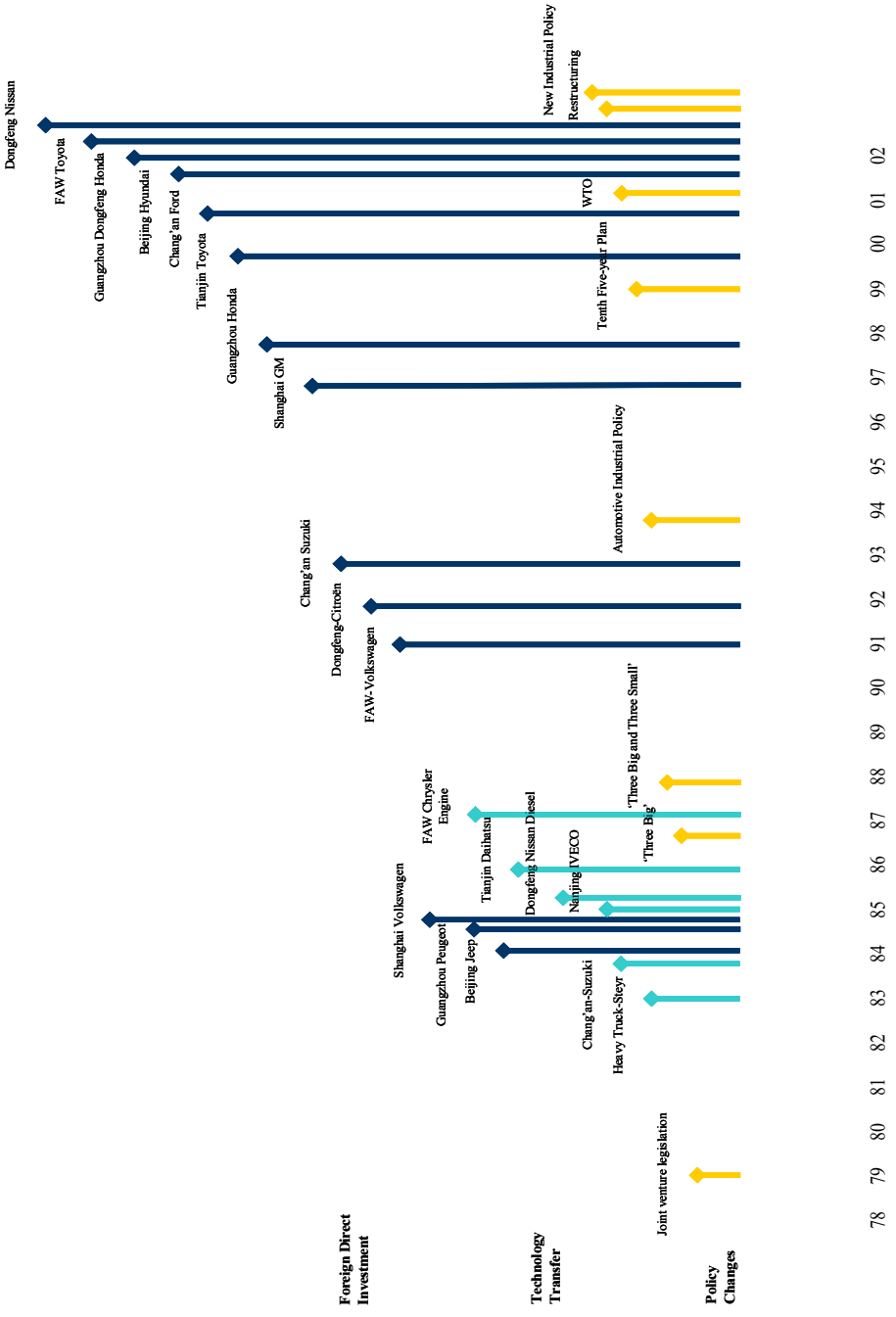
Table 6-1 Changes in administrative authorities for the automotive industry

Year	*Authority*
1950	Preparatory Group of Automotive Industry, the Ministry of Heavy Industry
1952-1964	Bureau of Automotive Industry, the First Ministry of Machinery Industry
1964	CNAIC established
1966	CNAIC dissolved
1966-1967	The First Ministry of Machinery Industry
1976-1982	Bureau of Automotive Industry, the First Ministry of Machinery Industry
1982	CNAIC re-established; Bureau of Automotive Industry cancelled
1987	CNAIC dissolved again; China Automotive Industry Federation became the central authority
1990	CNAIC re-established
1993	CNAIC's administrative function cancelled and it became a pure business establishment; Bureau of Automotive Industry established within the MMI
1998	MMI (and Bureau of Automotive Industry) dissolved as a result of government reform and replaced by the SAMI and no department set up for the automotive industry; SETC began implementation of the central authority.
2001	SAMI dissolved and China Machinery Industry Federation launched
2003	SETC dissolved and the regulatory authority on the automotive industry was incorporated into the NDRC.

Based on the argument that the Chinese automotive industry was in a scattered structure, entry restriction was implemented continuously by the government agencies responsible for the regulation of this industry. Early in 1989, one year after the establishment of the 'Three Big and Three Small' strategy, automotive vehicle made by non-sanctioned firms was included in the list of products that need to be strictly controlled. Within the overall environment of strict entry control, two SOEs obtained special permission to produce compact cars. Although new market entries were permitted since the early 1990s, new entrants were all IJVs formed between MNCs and the identified six domestic firms. Only after 2000, new entries other than the 'Three Big and Three Small' were permitted.

The automotive industry has been seen as a 'pillar industry' and supported by China's industrial policy. This industry was first identified as a 'pillar industry' in the 'Seventh Five-Year Plan' (1986-1990) in 1986. The industrial policy for the automotive industry was inspired by the pattern of industrial development in Japan and South Korea. The history of automotive industrial development of these two countries has demonstrated that active government interventions greatly contributed to the quick expansion of the export-oriented automotive industry (Aoki *et al*., 1996). The automotive industry is the first among Chinese industries to be backed by a formal industrial policy. The industrial policy for this industry was first formulated in 1994 and modified recently in 2004. In February 1994, the former SPC released the 'Automotive Industry Industrial Policy'. As a long-term plan for industrial development, the automotive industrial policy highlighted the determination of the Chinese government to develop a national automotive industry. In 2001, the 'Tenth Five-Year Plan for Automotive Industry' was promulgated by the SETC, establishing objective of industrial development and proposing to revise the 1994 industrial policy. In 2004, the NDRC released the 'Automotive Industry Development Policy', replacing the 1994 industrial policy (for important industrial policy changes, see Figure 6-2).

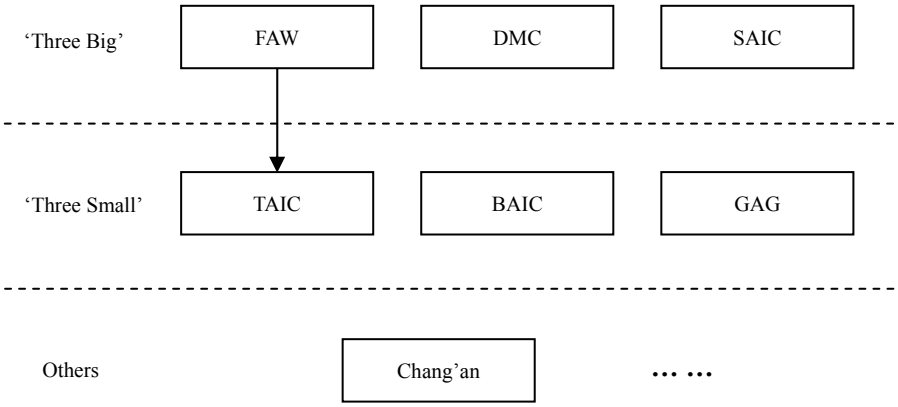
Figure 6-2 Development path of China's automotive industry, 1978-2002



The 1994 industrial policy encouraged foreign investment in the automotive industry and provided detailed guidelines for prospective foreign investors. It prescribed that local partners in IJVs that produce motor vehicles, motorcycles and engines must take over 50 percent of stakes, showing a clear tendency to build a 'national automotive industry'. Wholly Foreign-Owned Enterprise (WFOE) is a typical form of Foreign Invested Enterprises (FIEs) and has increasingly become a major mode of market entry, but it is not permitted in the automotive industry. The number of IJVs established by one foreign firm for one category of product was limited to no more than two. Furthermore, this industrial policy included very explicit requirements of local content. With regard to import, the industrial policy persisted that the state should adopt necessary means to manage the imports of motor vehicles, motorcycles and key components in the condition that China's automotive industry still has no capability for international competition. The 1994 industrial policy aimed to encourage the development of domestic producers by utilising foreign technology through establishing IJVs between MNCs and leading SOEs. In line with the 1994 'Outline of State Industrial Policy in the 1990s' issued by the State Council (see Subsection 5.1.3), the 1994 industrial policy had explicit prescription on industrial organisation. The so-called 'industrial organisation policy' aimed to 'avoid inefficient competition and improve the structure of industrial organisation'. It encouraged the development of large industrial groups and provided an array of supportive policy measures. In addition, a product license system was established, serving as an effective administrative measure of entry restriction. Entry restriction was proposed to be utilised as an effective means to limit the number of firms in the industry, to 'avoid inefficient competition', and to encourage the development of large-sized SOEs.

Although the 1994 industrial policy emphasised the importance of passenger car production to industrial development, it neglected the demand side of the market and failed to promote passenger car purchase by ordinary families. The industrial policy stated to encourage private purchase of motor vehicles, but no concrete police measures followed. Facing limited domestic demand and without international competitiveness, China's production capacity for passenger cars was much higher than the level of production. The market demand for passenger cars was low due in part to the high prices, which remained out of reach for most Chinese consumers. The prices of passenger cars in China were very high according to international standard; furthermore, non-price payment greatly increased real purchasing prices (Sun *et al.*, 2000, in Chinese). On the supply side, the problem of overcapacity was a consequence of redundant investment in the automotive sector in response to the high capacity requirement from the government and the high profit anticipation caused by persistent excess profits. Taking the development of large SOEs as a priority, the authority did not pay much attention to market competition in the practice. Large-sized SOEs systematically received preferential support, while private firms were not allowed to enter the market. First a policy to limit the number of production bases for passenger cars, the 'Three Big and Three Small' strategy later soundly reflected the government support towards selected large-sized SOEs in the automotive industry (see Figure 6-3).

Figure 6-3 Important SOEs in China's automotive industry



Note: In the new round of industrial concentration, the core assets of TAIC have been transferred to FAW and there has been a similar transaction between SAIC and Guizhou Yunque.

The 1994 industrial policy had striking contradictions. On the one hand, it encouraged inward FDI and technology transfer; on the other hand, it was characterised by protectionism and interventionism. It generally outlined China's plan for a self-sufficient automotive industry. The 1994 industrial policy was generally a continuity of the previous policy, which began in the mid-1980s, and many detailed prescriptions retained a strong flavour of central planning. This policy had a negative effect on industrial development and competitiveness enhancement. The automotive industry grew relatively slowly since the promulgation of the policy (see Figure 6-1) and the objective to promote export competitiveness has not been realised even until recent years. State intervention in general had the effect of restricting and hindering market mechanisms and the protectionism supported dominant firms at heavy cost to domestic consumers and industrial growth (see Subsection 6.2.3 for details). Another significant failure of this industrial policy was in the technological aspect (see Subsection 6.2.3).

After the release of the 1994 industrial policy, one important policy change was reflected by the 'Tenth Five-Year Plan for Automotive Industry' promulgated in 2001. Concerning the development of the automotive industry, the 'Outline of the Tenth Five-Year Plan' (2001-2005) approved by the People's Congress in 2001 (see Subsection 5.1.3) claimed to develop economic passenger cars and to promote the manufacturing level of motor vehicles and key components. On the basis of this overall outline, the 'Tenth Five-Year Plan for Automotive Industry' was formulated by the SETC. The plan summarised the problems faced by the automotive industry, set up the objective of industrial development, and provided general principles to promote industrial development and to realise the objective. The plan also proposed to revise the 1994 industrial policy. In the 'Tenth Five-Year Plan', the Chinese government has proposed a series of new policies aiming at stimulating automotive demand, particularly from private consumers. In the new plan, the Chinese government indicated clearly its intention of consolidating the nation's automotive industry into a small number (two to three) of strong companies to meet the challenge of an increasingly competitive market. It provided a policy foundation for a new

round industrial concentration among leading SOEs in the form of large-scale corporate restructuring in recent years (see Subsection 6.2.4). In 2001, the traditional system of catalogue management, which had been utilised as an effective measure for entry restriction, was reformed to an announcement system. Although it is still an effective approach to entry control, the scope and the process of this system have been reduced as one of the efforts to gradually eliminate administrative screenings of the central government.

In May 2004, the NDRC released the 'Automotive Industry Development Policy', the newest version of industrial policy, according to the 'Tenth Five-Year Plan' and considering the new situation after China's WTO accession. The new industrial policy has eliminated the provisions on FDI in the previous version that were not consistent with the WTO obligations. The local content requirements have been eliminated[4], but the restrictions on foreign equity and on the number of IJVs participated by one foreign firm have remained. In line with the 'Tenth Five-Year Plan for Automotive Industry', the new industrial policy emphasises the role of consumption policy for promoting industrial development. On the supply side, the new industrial policy further increases barriers to entry. Although the administrative screening has been simplified, a series of criteria for investment projects of automotive vehicle production have been prescribed. The threshold investment level of new automotive projects has been increased to RMB¥ 2 billion and it is prescribed that a Research and Development (R&D) centre with investment of over RMB¥ 500 million must be established. This threshold imposes a restriction to relatively small-sized projects, especially for private capital. By forbidding the transfer of production license, the new industrial policy also blocks the new entry through the mergers of small incumbents. Therefore the entry of private firms has been generally blocked by the new industrial policy. Although the industrial policy alleges to aim at the 'creation of the fair-competitive and integrated market environment', it does not treat different firms equally – as 'large-scale automotive group', firms with over 15 percent market share can implement their own development strategy with the permission of the NDRC. Although no firms are specified, the SOEs with over 15 percent market share are only FAW, SAIC and possibly DMC.

The entry restriction embodied in China's industrial policy for the automotive industry has probably been based on the experience of South Korea. The experience of South Korea demonstrates that a strict control on new market entry is important to promote the rapid growth of key firms in the industry (Chaudhuri, 1989). However, the differences between the Chinese and South Korean models of industrial development are apparent. No foreign firms were allowed to enter the South Korean domestic industry. Coupled with trade barriers, strong export promotion measures were pursued to subject domestic firms to international competition to force them to become more efficient and to keep domestic prices low. In contrast, MNCs were allowed to enter China's automotive industries. MNCs and large-sized SOEs chose to collaborate rather than to compete and they had no incentive to compete in international markets due to high profits in the domestic market. Meanwhile, it was impossible to change the scattered market structure because the high profitability caused by protectionism always attracted more entrants. On the basis of the decentralisation of government structure, local governments and state ministries often bargained successfully for special permission that circumvents the central government

[4] A trade policy measure is adopted to fulfil the same purpose: the imports of motor components with the characteristic of integral vehicles would be treated as motor vehicles in terms of tariff rates.

regulation. The interventionist behaviour of local governments and corresponding market fragmentation further hampered competition in the national market.

The role played by the Chinese government in industrialisation came not only from the central government but also from local state agencies (see Subsection 1.4.2). Local governments have been actively involved in the process of local economic development and played a significant role in industrialisation in their localities (Qi, 1992; Zheng, 1994; Montinola *et al.*, 1995). For most foreign investment projects, the screening process at the local level is relatively simple and efficient thanks to the local efforts to attract FDI. Such institutional arrangements have reduced the level of the overall regulatory hurdle against FDI inflows through deregulation or circumvented the existing regulation when central supervision is lax (Huang, 1999). But the decentralisation and related inter-regional rivalry have also led to problems in the Chinese economy in general and the automotive industry in particular. In order to promote local economic development, many provinces and cities established its own version of 'industrial policy' for the automotive industry, with the aim to develop local firms, sometimes with the costs to non-local firms. Thus the competition mechanism was hindered by the 'state aid' provided by local governments to local firms. Furthermore, to protect local firms, administrative means were adopted to prevent the products of non-local firms from entering local markets. Many policy instruments within the scope of local administrative authorities can be used to support local firms and to strike others. Local governments could use regulations and policies to favour the purchase of motor vehicles produced within their jurisdiction, which has created protected local markets. In the begging of 1996 when the automotive industry faced weak demand, for instance, some cities introduced the local policy to restrict compact cars. For example, the Shanghai municipal government used administrative means to influence taxi companies' buying decision, favouring the local Santana model from Shanghai Volkswagen. Dic (1997) criticised that the opportunism of the local authority leads to the fragmentation and miniaturisation of the Chinese automotive industry. These consequences stem from the rent-seeking activities of both domestic firms and local authorities.

6.1.3 Trade Barriers and International Competitiveness

The experience of East Asian newly industrialised economies demonstrates that trade policy, especially export promotion, can be utilised as an effective measure for industrial policy. The trade policy for China's automotive industry has been dominated by the logic of import substitution. Although the industrial policy encourages exports, the objective of establishing international competitiveness has not been attained. Only in the truck segment, which has been dominated by SOEs, significant exports have been reported. In terms of the relative size of imports and exports, the automotive industry is one of the industries with the lowest international competitiveness. In 2003, the imports and exports of automotive products were US$ 14.4 and 4.4 billion respectively, leading to a deficit of US$ 10 billion in this sector.[5] An international comparison highlights the low export competitiveness of China's automotive industry. In 1960, Japan produced 481,600 motor vehicles and exported 8.1 percent of them. In 1970, Japan's automotive production was 5,289,200 and the ratio of exports was 20.5 percent. It was similar in South Korea, which is a typical example of the independent model of industrial development generally following the

[5] According to Xinhua News Agency.

approach of Japan (see Subsection 6.2.1). In 1980, South Korea produced 124,400 motor vehicles and exported 20.3 percent of them. In 1990, South Korea's automotive production increased to 1,302,500 and the ratio of exports was 26.6 percent. In contrast, China produced 4,443,700 motor vehicles in 2003 and exported only 2.8 percent of them. More strikingly, the export of passenger cars was merely 2,849 units.

Despite the size of the automotive market, the Chinese automotive industry still remains in an infant level. The share of passenger car in total automotive production was below 40 percent in recent years, extremely low in contrast to developed countries. Rooted in the logic of the infant industry argument, China adopted an import substitution strategy for its automotive industry and imposed very high tariff rates on imported motor vehicles. By the early 1980s, domestic production could not meet the growing demand and the Chinese government had to permit large-scale vehicle imports. Imports of passenger cars surged accordingly. In an effort to protect domestic firms and to lessen the outflows of foreign exchange, the government imposed a system of import licenses, quotas and high tariff rates on foreign-made motor vehicles in 1986, which ranked among the highest in the world. High tariff rates for passenger cars deterred competition from abroad via imports. High tariff rates for components, coupled with strict local content requirements, prevented the imports of components and led to subscale assembly. The protectionist measures had serious consequences: they deterred international competition from imports, protected high prices and profits in the domestic market and led to significant market dominance and welfare losses (see Subsection 6.2.4). After 1992, in order to facilitate the re-entry of the General Agreement on Tariffs and Trade (GATT), China began to gradually reduce its high tariff rates on foreign-made motor vehicles. The later WTO agreements included an explicit commitment by the Chinese government to substantially reduce the restrictions it imposed on automotive imports and on the operations of foreign firms in China. After the WTO entry, high entry barriers and strict business restrictions in the automotive sector were further eliminated to fulfil China's promises for its WTO entry (see Table 6-2).

Table 6-2 Trade barriers and business restrictions in the automotive industry: before and after WTO entry

Item	*Before WTO entry*	*After WTO entry*
Tariffs	200 percent in the 1980s; 80-100 percent in the 1990s	25 percent by 2006 (15 percent for components)
Quotas	30,000 vehicles a year allowed from foreign carmaker	Quota increased 20 percent a year, phased out by 2006
Local content requirements	40 percent in first year, increasing to 60 percent, 80 percent in second and third years	No local content requirements
Foreign participation in sales and distribution	Carmakers must use Chinese distributors to sell their vehicles	Distribution rights for foreign firms phased in over three years
Automotive financing	Foreign, non-bank financing prohibited	Foreign, non-bank financing permitted in selected cities prior to gradual national rollout

Source: Mckinsey.

Tariffs on motor vehicles, reduced on January 1, 2002 to between 40 and 50 percent, will gradually decrease to 25 percent by the end of 2006 (for tariff changes prior to 2002 see Table 6-3). Tariffs on automotive components will also gradually decrease to an average of 10 percent. As tariff rates were lowered, other forms of trade barriers were also reduced. Quotas on autos will be phased out by 2005, with an initial level of US$ 6.0 billion. Quotas will decrease 15 percent annually until eliminated.

Table 6-3 Motor vehicle tariff rate changes, 1994-2002

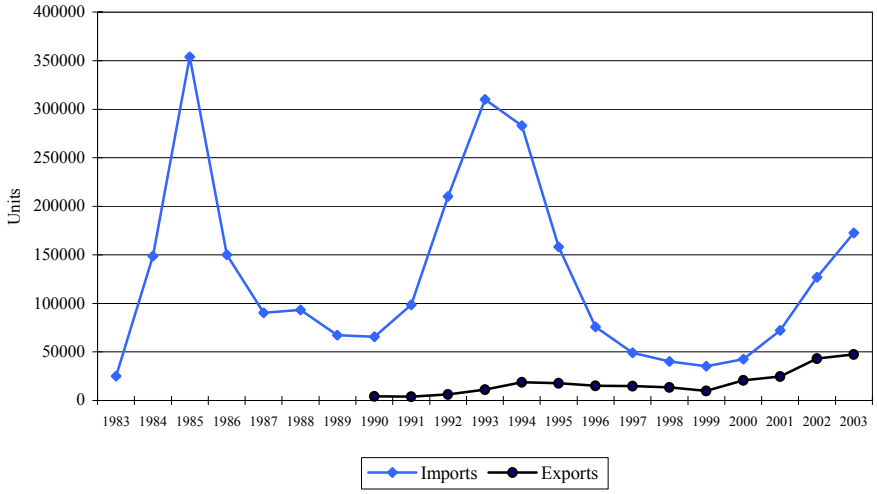
Item	*Before 1994/ 1/ 1*	*1994/1/1 - 1996/4/1*	*1996/4/1 - 1997/10/1*	*1997/10/1 - 2001/1/1*	*2001/1/1 - 2002/1/1*	*After 2002/ 1/ 1*
Gas Engine Car<1L	180	110	100	80	70	43.8
1L< Gas Engine Car <1.5L	180	110	100	80	70	43.8
1.5L< Gas Engine Car <2.5L	180	110	100	80	70	43.8
2.5L< Gas Engine Car <3L	180	110	100	80	70	43.8
Gas Engine Car >3L	220	150	120	100	80	50.7
>30 Seats Bus		70	60	50		
10～29 Seats Bus		100	90	70		

Source: Ministry of Foreign Trade and Economic Cooperation (MOFTEC).

High protection yielded persistent high profitability and hence led to greater political bargaining power of entrants. Such bargaining power might be exploited to pursue further rents (He and Yang 1999). In a policy framework of import substitution, the automotive industry dose not built up its international competitiveness. One of the contributions MNCs can make to host economies is to enhance their international competitiveness. Protected behind trade barriers, however, China's automotive industry simply could not meet global standards on price and quality.[6] For almost 20 years, the potential of promoting competitiveness still has not been tapped. The international competitiveness of an industry can be simply measured by the relative size of imports and exports, as highlighted by the trade competition index (see Subsection 4.4.3). The export of motor vehicles has remained at a very low level until recent years. Government policy towards the automotive industry failed to attract efficiency-seeking and export-oriented MNC activities, which are crucial to promoting competitiveness (see Subsection 6.2.1 for a detailed discussion). Although protected by one of the highest trade barriers in the world, due to their low international competitiveness, firms in the automotive sector gave up a large share of the domestic market to imports for a long period of time. In fact, imports surged not only in the 1980s but also in the 1990s (see Figure 6-4).

[6] See Murphy, 'Driving ambition', *Far Eastern Economic Review*, May 27, 2004.

Figure 6-4 China's imports and exports of motor vehicles, 1983-2003



Source: CAAM.

The Chinese government announced to promote exports of motor vehicles, but its policy focus was actually import substitution and the automotive vehicle exports remained low. Between 1980 and 1995, 2.13 million vehicles were imported, of which 1.05 million were passenger cars. The expenditure of foreign currencies was US$ 7.48 billion or equivalent to 65.4 percent of the total national automotive investment during the same period. Meanwhile, high trade barriers led to widespread smuggling. If including imports and smuggling of vehicles, domestic production only accounted for half of the passenger car market in that period (see Table 6-4). In contrast to other industries, the automotive sector has continuously received high protection, which may perpetuate the inefficiencies and low competitiveness in this sector.

Table 6-4 Structure of the Chinese automotive market (percent), 1993-1997

Item	*1993*	*1994*	*1995*	*1996*	*1997*
Imports	57	60	44	28	16
Smuggling	19	11	17	18	33
Domestic production	24	29	40	54	51
Total	100	100	100	100	100

Sources: Wang (2002).

After China's accession to the WTO, trade barriers were reduced and greater freedom allowed for foreign firms to operate motor vehicle sales, financing and leasing companies. This market liberalisation will have a great impact on the Chinese operations of MNCs, on China's imports of motor vehicles and components, and on the welfare of Chinese consumers. Increasing vehicle imports after WTO entry exert pressures on IJVs and may improve their competitiveness. The MNCs that have entered China are confronting with intensified competition from late entrants. Trade liberalisation speeds up technology

transfer, model variety and price reduction, and competition in China's automotive market is intensified. Increased competition will, over time, help to develop the domestic industry and to improve product offerings to Chinese consumers.

6.2 FDI and Competition in the Passenger Car Industry

Since the beginning of China's economic transition, a dramatic structural change has taken place in the automotive industry. The share of passenger cars in total automotive production rose from 2.4 percent in 1980 to 45 percent in 2003. Various segments of the automotive industry have experienced different patterns of industrial development due to different strategies of industrial development. In the truck industry in which China had already built up its competence in the era of planned economy, the Chinese government has adopted a self-dependence strategy. The development of this segment has been largely dependent on the two largest SOEs, FAW and DMC, which mainly produced medium-sized trucks prior to the mid-1980s. In the truck segment, foreign technologies were imported in the 1980s, focusing on light vehicles and heavy trucks to solve the problem of 'the lack of heavy- and light-duty vehicles' (see Figure 6-2). FAW and DMC have grown into the largest single-plant truck assemblers in the world. In the passenger car segment, a strategy characterised by the dependence on MNCs has been adopted since the mid-1980s when the Chinese government decided to develop China's own passenger car industry. In this segment, SOEs and MNCs collaborated rather than competed via the institutional arrangements of IJVs. Thus market competition has been largely characterised by the rivalry among IJVs. Domestic partners have been the largest SOEs, including FAW and DMC, the traditional track makers, and SAIC, BAIC and GAG, which were previous much smaller assembling factories. Among the 'Three Big and Three Small', only TAIC did not engage in equity cooperation with MNCs. Rather, it produced compact cars by importing technology from a Japanese firm. IJVs have inherited competitive advantages from its foreign, as well as domestic, parents and enjoyed preferential policy treatment towards FIEs. They have dominated the passenger car market. Only in recent years, a very limited number of private-owned enterprises got the chance to enter the fast-growing passenger car market. Government policy is more lax with non-passenger car manufacturing, which is much less profitable. Local content requirements, particularly a start-up requirement of 40 percent, combined with the low competitiveness of the components industry, have also promoted foreign components suppliers subordinated to or affiliated with car-producing MNCs to invest in China (Sit and Liu, 2000).

6.2.1 Industrial Development Strategies: Roles of Inward FDI

FDI and international production is a general phenomenon in the global automotive industry. Prior to the 1980s, it was a common strategy for major car-producing MNCs except for the Japanese to set up branches in peripheral regions for both components manufacturing and assembly, which was well represented in the world car model (Maxcy, 1981; Rubenstein, 1992). Since the 1980s, the continuing trend of international production has acted as one of the major forces in the restructuring of world automotive industry. The 1980s also witnessed a trend of protectionism in automotive markets. Even in developed countries, defensive measures were used to protect the automotive sectors (Chaudhuri, 1989). These measures forced MNCs to invest and build cars in host countries, instead of just exporting complete-built-up vehicles. By the early 1990s, overseas output of major

car-producing MNCs had accounted for more than one-third of their total automotive production.

This trend of international production in the global automotive industry has provided an opportunity for developing countries to establish their own automotive production capabilities. Chaudhuri (1989) categorised two models for developing countries: 1) independent, domestically owned, private industry, as in South Korea, and 2) dependent, foreign-owned, subsidiary of MNCs, as in Latin America. FDI played a determinative role in the latter model. The main difference between these two models of industrial development lies in the choice between building a country's own national industry and just being production bases of MNCs. In other words, build competitiveness of domestic firms, or utilise the competitiveness of MNCs to build a competitive industry. Two factors make the first model – the establishment of a domestic automotive industry in developing economies based on their own efforts – very difficult. First, the automotive industry shows an obvious oligopolistic feature, as a limited number of MNCs have dominated the global market. Second, technology evolves rapidly in safety, energy saving, pollution control, and other aspects. Despite these difficulties, a very limited number of developing countries, such as South Korea, have built up a competitive automotive industry independently. As a typical example of the first model, South Korea targeted export from the very beginning, based on its industrial policy, although it also relied on foreign MNCs for technology transfer (Chaudhuri, 1989). As a typical example of second model, the Latin American automotive industry, represented by Brazil and Mexico, has developed under the dominance of foreign MNCs (Jenkins, 1977; Tuman and Morris, 1999). The successful story of South Korea indicates that FDI is not a necessary condition for the development of an automotive industry, but the experience of some developing countries does show that attracting FDI provides an effective way of catching up.

China seems to follow a middle approach. The Chinese government stressed to develop a relatively independent automotive industry and meanwhile attempted to attract investment from car-producing MNCs. The government strictly limited the equity share of foreign investors in IJVs and meanwhile imposed high local content requirements. China's middle approach aimed to balance the needs of building up a 'national automotive industry' and of utilising foreign capital and technology. But there were inherent contradictions between these two purposes. As a result, the roles of inward FDI in promoting industrial development were largely limited and SOEs and MNCs collaborated via the organisational arrangements of IJVs to dominate the domestic market at the expense of consumer interests and social welfare.

The inward FDI in China's passenger car industry has been market- rather than efficient-seeking due to high trade barriers. The FDI impact on industrial development depends not only on increasing FDI inflows – and the technology and managerial know-how associated with capital – but also on global market access. China's framework of industrial policy for the passenger car industry has encouraged market-seeking FDI, but discouraged efficiency-seeking and export-oriented FDI. High tariff rates for passenger cars prevented imports and protected high prices and profits in the domestic market, stimulating MNCs to serve local market rather than to export. High tariff rates for components, in combination with local content requirements, prevented IJVs from importing components and led to subscale plants and consequently high costs of production. Some China-made components were up to 40 percent costlier than world

prices[7], preventing efficiency-seeking and export-oriented FDI. The organisational arrangements of IJVs further discouraged MNCs from exporting – it is natural that the foreign partners in IJVs are not willing to export thus to share its international market with its local partners. This may be an important reason why international competitiveness has not been established over a long period of time under the model of industrial policy pursued in China's passenger car industry (see Subsection 6.1.3). In contrast, export promotion was an integral part of Japanese and South Korean industrial policies for the automotive industry. In China, export promotion has only been mentioned by the document of industrial policy, but not seriously implemented due to the inherent deficits in the industrial policy.

Before the mid-1980s, China relied on importing technology to expedite the modernisation of its automotive industry (see Figure 6-2). The demand-led surge in motor vehicle imports in the mid-1980s forced China to adopt a much more open policy to increase passenger car production and to promote import substitution. FDI in the automotive sector was officially permitted and China began to encourage FDI by setting up IJVs with car-producing MNCs. Industrial policy provided an integrated approach to inward FDI in the passenger car industry, including explicit restrictions on equity share, local content and other operational requirements. Due to strict regulation, FDI in the passenger car industry has mostly taken the form of IJVs. Totally 13 IJVs had been established until 2002 (see Table 6-5).

Table 6-5 IJVs in China's passenger car industry

IJV	*Foreign partner*	*Local partner*	*Year of establishment*
Beijing Jeep	DaimlerChrysler	BAIC	1984
Shanghai Volkswagen	Volkswagen Group	SAIC	1984
Guangzhou Peugeot	Peugeot	GAG	1985
FAW-Volkswagen	Volkswagen Group	FAW	1991
Dongfeng-Citroën	Citroën	DMC	1992
Chang'an Suzuki	Suzuki Motor	Chang'an Automobile (Group) Co.	1993
Shanghai GM	General Motors	SAIC	1997
Guangzhou Honda	Honda Motor	GAG	1998
Nanjing Fiat	Fiat	Yuejin Motor (Group) Corporation	1999
Dongfeng Yueda Kia	Kia Motors	DMC, Jiangsu Yueda	1999
Fengshen	Nissan Motor	DMC	2000
Tianjin Toyota	Toyota	TAIC	2000
Beijing Hyundai	Hyundai Motor	BAIC	2002

Note: 1) Beijing Jeep was co-invested by Beijing Automotive Works (later BAIC) and American Motor Corporation (AMC), which was acquired by Chrysler in 1987 (Chrysler merged with Daimler Benz in 1998). When the joint venture agreement expired in May 2002, DaimlerChrysler signed an agreement with BAIC to prolong their cooperation for 30 years. 2) BAIC is corporationised from former Beijing Automotive Works. 3) In 2002, DMC and PSA Peugeot Citroën signed an agreement to broaden the cooperation between DMC and Citroën to that between DMC and PSA Peugeot Citroën. 4) Nissan invested in Fengshen via Yulon Motor and DFM, an IJV with DMC. 5) After the restructuring between FAW Group and TAIC in 2002, FAW Group became the local partner of Tianjin Toyota.

6.2.2 MNCs in the Passenger Car Industry: Pioneers and Latecomers

The global automotive industry has been dominated a number of industrial leaders (see

[7] See Murphy, 'Driving ambition', *Far Eastern Economic Review*, May 27, 2004.

Table 6-6). As the restructuring of the global automotive industry went on, several corporate groups emerged (see Table 6-7) and the list of top carmakers changed significantly. Virtually all carmakers have entered China's automotive market, but based on different entry timing strategies. Some car-producing MNCs pioneered to enter the market, and others followed. There are three waves of FDI in China's automotive industries: the first wave took place in the mid-1980s, the second wave in the early 1990s and the third wave in the late 1990s and beyond (see Figure 6-2).

Table 6-6 Leading MNCs in the global automotive industry

Rank	*Company*	*Country*	*Global revenues rank 2001*	*Revenues (US$ millions)*
1	General Motors	United States	3	177,260
2	Ford Motor	United States	5	162,412
3	DaimlerChrysler	Germany	7	136,897
4	Toyota Motor	Japan	10	120,814
5	Volkswagen	Germany	21	79,287
6	Honda Motor	Japan	41	58,882
7	Fiat	Italy	49	51,944
8	Nissan Motor	Japan	58	49,555
9	Peugeot	France	65	46,264
10	BMW	Germany	112	34,444
11	Renault	France	125	32,552
12	Hyundai Motor	South Korea	133	30,864
13	Mitsubishi Motors	Japan	171	25,598
14	Volvo	Sweden	267	18,301
15	Mazda Motor	Japan	296	16,754
16	Suzuki Motor	Japan	381	13,342
17	Isuzu Motors	Japan	404	12,778
18	Fuji Heavy Industries	Japan	462	10,897

Source: *Fortune 500*.
Note: Not including companies specialised in motor components, which are also included in the motor vehicle and parts industry in the *Fortune 500*.

Table 6-7 Major corporate groups in the global automotive industry

Group	*Group members*
General Motors	GM (Opel, Vauxhall, Saab), Fiat-Iveco, Suzuki-Maruti, Fuji and Isuzu
DaimlerChrysler	Mercedes, Chrysler and Mitsubishi
Ford Motor	Ford and Mazda
Toyota Motor	Toyota, Daihatsu and Hino
Renault	Renault, Nissan, Nissan Diesel and Samsung
Volkswagen	Volkswagen, Skoda and Seat
PSA	Peugeot and Citroën

Volkswagen, Peugeot and American Motor Corporation (AMC) were among the pioneers investing in China's automotive industry. Early in 1984, AMC, acquired by Chrysler (merged with Daimler Benz later in 1998) in 1987, and Beijing Automotive Works (BAW) established an IJV, the Beijing Jeep Corporation Ltd. (BJC), to produce jeeps in Beijing. BJC was one of the first and then the largest IJVs between an American company and a Chinese enterprise. In 1990, an engine plant is added to Beijing Jeep facilities.[8] Although AMC was confident that BJC would be able to not only serve as an

[8] When the joint venture agreement expired in May 2002, DaimlerChrysler signed an agreement with Beijing

entry into the Chinese market, but also export Cherokee Jeep from China to other countries in Asia, the latter object has never been attained.[9] In recent years, BJC faced daunting challenges, with its sales and profits falling sharply.

Although facing troubles in recent years, BJC is not the unluckiest one in the first three IJVs in China's automotive industry. Guangzhou Peugeot was. It was co-invested by Guangzhou Automotive Works (GAW, later GAG) and Peugeot in 1985. In its relatively short history, Guangzhou Peugeot had experienced success but declined rapidly since 1994. With a relatively small amount of investment and low equity share in this IJV, Peugeot probably had no long-term commitment and only provided laggard models and virtually no technology improvement to the IJV. In the face of fierce competition from Santana and other brands, Peugeot rapidly lost it market share and ended up with a withdrawing from the IJV.[10]

The only winner in the first-movers is Volkswagen, which entered China's passenger car industry with two IJVs: Shanghai Volkswagen, started in 1985, and FAW-Volkswagen, started in 1991(see Table 6-8 for basic facts about the two IJVs). Since the start of its operation in China, Volkswagen has occupied the leading position in the Chinese passenger car market. In the first wave of FDI inflows, Volkswagen acted as a leader in terms of investment scale, technology improvement and localisation process, which in turn gained itself a leading position in the market, as well as a good relationship with the Chinese government. In the second wave of FDI inflows, Volkswagen fully utilised its leading position obtained in the first phase, beat its competitors, and got the opportunity to set up an IJV with FAW, an 'ideal' state-owned local partner among the 'Three Big'. Therefore, Volkswagen built up its leading position in China by entering early and decisively, and by further strengthening its early dominant position through strong commitment and steadfast reinvestment.

Automotive Industry (Group) Company (BAIC, the former BAW) to prolong their cooperation for 30 years. The agreement called for capital injection, a new management team and the introduction of advanced automotive technology. Another Agreement was signed in June 2002, between BAIC and Mitsubishi Motor, an assembler and engine producer which DaimlerChrysler has hold about 37 percent equity share and plan to enlarge its stick. The technology licensing agreement authorised BAIC to produce and sell an ameliorated version of 'Challenger', the flagship model of Mitsubishi Motor.

[9] See Mann (1997).

[10] Guangzhou Peugeot stopped operation in 1998. Honda established a joint venture in Guangzhou after PSA withdrew from Guangzhou Peugeot.

Table 6-8 Basic facts about Volkswagen's two joint ventures in China

Item	*Shanghai Volkswagen*	*FAW-Volkswagen*
Time of establishment	1985	1991
Location	Shanghai	Changchun, Jilin Province
Total investment (RMB¥ billion)	15.05	11.13
Shareholders at the time of establishment	Volkswagen AG (50%) SAIC (25%) Bank of China (15%) CNAIC (10%)	Volkswagen AG (30%) Audi AG (10%) FAW (60%)
Workforce	10,300	6,000
Production capacity	300,000 vehicles 330,000 engines	180,000 vehicles 270,000 engines 180,000 gearboxes
Products	Santana Santana 2000 Passat Polo	Jetta Audi Bora
Market share (percent)	35.6	17.8

Source: Corporate websites of Shanghai Volkswagen and FAW-Volkswagen.

In the second wave of FDI inflows, another European carmaker, Citroën entered, establishing an IJV with DMC, another state-owned local firm among the 'Three Big'. Dongfeng-Citroën was launched in 1992 and began production late in 1996.[11] The IJV is 31 percent owned by DMC, 26.9 percent by Citroën, 39 percent by Chinese financial institutions and 3.1 percent by French banks. With a total investment of over RMB¥ 13.1 billion, including RMB¥ 2.9 billion government and commercial loans from France, DCAC has a heavy burden of interest and depreciation, but a relatively low level of sales and production. Only after the implementation of a 'debt for equity substitution' project reducing debt of RMB¥ 2.3 billion and a corresponding capital injection from Citroën in 2000, DCAC stopped losing money and began earning profits. FAW-Volkswagen, built just one year earlier with almost the same amount of investment, obviously outperformed DCAC. With regard to DCAC's poor financial performance and its relative low market share (virtually the same as Chang'an Suzuki, which invested much less than DCAC), the IJV between DMC and Citroën (later PSA) is another unsuccessful story of French carmakers in China's automotive market.

In the third wave of FDI, General Motors outmanoeuvred its rivals for a role in the second IJV established in Shanghai. Formed in June 1997, Shanghai General Motors Co., Ltd. (Shanghai GM) is a US$ 1.52 billion, 50-50 IJV with SAIC. In the first year of its operation, Shanghai GM sold more than 20,000 luxury Buick cars and earned a profit of RMB¥ 500 million. In the first half of 2002, Shanghai GM's share has climbed to number four in China's passenger car market, only behind Shanghai Volkswagen, FAW-Volkswagen and TAIC. Although General Motors entered late in China's automotive market, it came just prior to a demand boom, based on strong support from perhaps the most powerful domestic partner and local government.[12]

[11] In 2002, DMC and PSA Peugeot Citroën signed an agreement broadening cooperation from between DMC and Citroën to between DMC and PSA Peugeot Citroën.

[12] In 1998, the IJV project was identified as the number one project by the Shanghai Municipal, usually given to an important city infrastructure project. After Shanghai GM's production, all cars used by the city leaders changed to Buick, indicating strong support from the local government.

The even more successful story happened to Honda Motor, which entered the game in China's seductive automotive market in 1998 to fill the empty left by Peugeot in Guangzhou. Honda entered just one year after General Motors, with a much smaller amount of investment. The company started the production of the luxury Accord model in March 1999. In 2001, Guangzhou Honda sold 51000 cars, realising RMB¥ 13.2 billion turnover (Shanghai Volkswagen is RMB¥ 31.7 billion) and 4.5 billion pre-tax profits. In 2001, the market share of Honda Accord was 28.9 percent for the luxury car segment and 7.3 percent for the passenger car market at large, almost the same as that of DCAC and only one percent below that of Shanghai GM. Considering the total investment of no more than US$ 200 million, this achievement was impressive. As car-producing MNCs increasingly focus on the Chinese market, the third wave of FDI did not end but heated up. Volkswagen, General Motors, Honda Motor and DaimlerChrysler planed to expand; Ford Motor, BMW and Hyundai Motor began to enter. Recent large investment projects of Toyota and Nissan made the nearly boiling water even hotter. As an increasing number of IJVs are formed after China's WTO entry and more domestic firms begin to cooperate with more than one foreign partner, and *vice versa*, the structure of the automotive industry is becoming more and more complicated (see Subsection 6.2.4).

6.2.3 Market Structure and the Lack of Competition: Consequences

In the automotive sector, competition has been introduced since the beginning of China's economic transition. In the highly regulated and protected passenger car industry, as discussed in Subsection 6.1.2 and Subsection 6.1.3, both entry restrictions and trade barriers imposed by the government determined the nature of market competition. Market structure is largely determined by the entry and exit of firms as well as the imports and exports of goods. Generally speaking, government policy, pre-entry competition among MNCs and after-entry market competition among IJVs have jointly determined the structure of China's passenger car industry. It seems that, for a long period of time, the first two factors have played the most significant roles. Since the late 1980s, government policy on the passenger car industry has been incorporated in the sector-specific industrial policy, which has involved an array of restrictive policy measures, including trade barriers, investment project screening, foreign equity limitation and local content requirements. The essence of this policy system has been highlighted by systematic impediments to both market entry and import.

In this circumstance of government protectionism, firms, including SOEs and MNCs, built up their bargaining power and used it to achieve specific objects. For car-producing MNCs, although stepping into China's passenger car industry was associated with many uncertainties and difficulties, the potential market size and the persistent high profitability protected by entry restrictions and trade barriers were very attractive. The primal constraint facing them was the entry restriction imposed by the Chinese government. To enter the Chinese market, MNCs need to offer right technologies and to access to right partners. As a play ground for car-producing MNCs, China's passenger car market has provided a special arena to compete on. Even before their investment, the competition began as MNCs tried to procure a very limited number of licences to set up IJVs in China, especially with preferred local partners – the politically powerful large-sized SOEs. The pre-entry competition is part of the multi-dimensional competition among MNCs in China's automotive industry and, to some extent, pre-determines the position of a car-producing MNC in China's automotive market.

The large foreign investment projects usually got a more rigorous control and a more

complicated screening process, especially in the early years of reform. In the process of negotiation with domestic partners and its superior (local government or department of central government) and the process of screening, several interested MNCs participated and competed with each other. In the competition for a market entry license and a preferred partner, the bargaining power of MNCs and what they decided to offer determined the result of this pre-entry competition. Large-scale investment, advanced technology, fast localisation and some other specific policy preconceptions are all on the government's wish list. In the early 1990s, Volkswagen utilised its leading position and bargaining power gained in the 1980s to get the license to form an IJV with FAW. In the mid-1990s, General Motors offered a lot more than its rivals and got the chance in a Shanghai car venture, while Ford failed. When Guangzhou Peugeot came to an end in 1997, GAG provided a scarce opportunity for foreign car manufacturers to enter the Chinese market. Among several foreign automotive manufacturers that showed interests in taking over the venture, Honda Motor was chosen by the Chinese government to become a new joint venture partner of GAG.

One of the most important issues in pre-entry competition is local partner selection, which is a crucial determinant of business performance of MNCs. The more 'important' a local partner is, the more likely successful the IJV will be. For the car-producing MNCs, however, the bargaining power in selecting a local partner is usually limited. The identified key SOEs get special 'attention' from the government. The government strategy of 'Three Big and Three Small' gives the MNCs a clear strategic evaluation for their potential joint venture partners. In 1987, three centrally programmed groups – FAW, DMC and China National Heavy-duty Truck Corporation – were ratified as independent planning units in the State Planning Commission. Three local corporate groups in Shanghai, Tianjin and Beijing soon received the same treatment. These corporation groups now dominate the industry (in the passenger car segment, by the IJVs they invested in) and an increasing number of small and medium-sized factories are taken over by these groups. Once MNCs entered the Chinese market, they can reinforce their bargaining power for influencing government policies. As He and Yang (1999) argued, many MNCs joined SOEs in lobbying for protection. They have the incentives to request protection in order to gain an advantage over their competitors outside China, or simply to seek rents from protection.

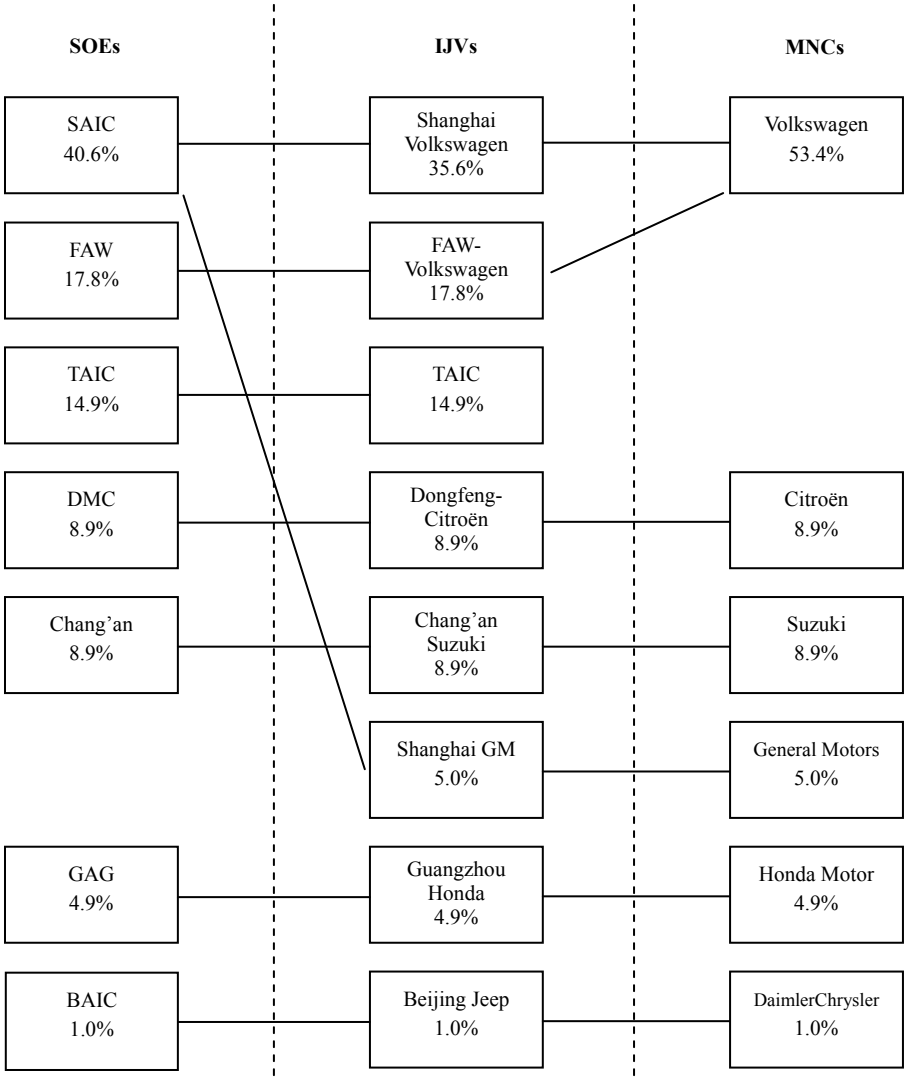
Although there are a large number of firms in the automotive industry, production in the passenger car industry has long been dominated by the largest players. As a consequence of China's 'middle way' strategy to develop it passenger car industry, it have been IJVs that dominate the fast-growing passenger car market. IJVs, in total, took a very large share of the domestic market – averaging 73.7 percent from 1986 to 2002 (see Table 6-9 for the combined market share of IJVs). TAIC was the only non-IJV firm that had a significant market share in the passenger car industry. Volkswagen has dominated China's passenger car market since the mid-1980s when Shanghai Volkswagen was established. Over a period of 15 years, more than half of the passenger cars sold in China rolled out of Volkswagen's IJVs (see Table 6-9 for Volkswagen's market share). Other foreign IJVs accounted for most part of the rest. Only after 2000, as competition intensified in the passenger car industry, Volkswagen's market share began to shrink significantly. Because it is the IJVs established jointly by the largest SOEs and the leading MNCs that dominate the passenger car market, the industrial structure has been largely determined by the collaboration between SOEs and MNCs (Figure 6-5 shows the structure of the passenger car market in 2000).

Table 6-9 Market share and concentration ratio in China's passenger car industry, selected years

Year	*1986*	*1990*	*1995*	*2000*	*2003*
Shanghai Volkswagen (percent)	69	44	49	36	23
FAW-Volkswagen (percent)	0	0	6	15	16
Volkswagen total (percent)	69	44	55	52	39
IJV total (percent)	83	69	70	83	77
Concentration ratio (C3) (percent)	99	71	77	65	48

Source: CAAM.
Note: Calculate by the author according to the production data (units of passenger cars produced).

Figure 6-5 Market share distribution in China's passenger car industry in 2000



There has been convincing evidence of the existence of market power and the lack of

competition in the passenger car market. However, the problem was concealed by the seemingly dispersed market structure and the apparently large number of firms in the entire automotive industry. The dispersed market structure of automotive industry was formed in the era of planned economy and the problem has been improved during the reform period. However, there are still a large number of assemblers, most of which have very small production capacity. Some of them are taken as an automotive firm only because they have licenses to produce motor vehicles. In fact, they are almost extraneous when considering the structure of China's automotive market. In addition, if we consider different segments of China's automotive industry, the structure of these segments would be quite concentrated, as demonstrated by the above analysis of the passenger car segment. However, the government did not take the issue of relevant market into account and the automotive industry was taken as a whole when market structure was concerned. Furthermore, the number of firms rather than the ratio of concentration was used to measure the industrial structure. Therefore the conclusion would be that a dispersed market structure calls for government efforts to limit 'unnecessary competition' and to promote concentration. It seems that this argument based on misperception on market structure has provided the most rationale for the formulation of industrial policy. The solution proposed is to implement strict entry control in order to limit the number of firms in the industry. This policy may also be inspired by the oligopolistic nature of the current global car industry. However, only the *status quo* was emphasised and the historical development process was neglected – in the early 1920s, for instance, when the United States already produced over 200,000 passenger cars annually, there were more than 100 car assemblers from which Ford and GM survived and emerged as industrial leaders.[13]

Behind this apparent miscalculation is the government's determination to develop China's own Ford and GM. According to the political economy of regulation, interest groups may lobby with the relevant government authorities for the imposition of government policy to their own benefit. In this process, the incumbent firm is usually the interest group with the strongest position (see Subsection 8.1.1 for a detailed discussion). In China's automotive industry, the large-sized SOEs have the strongest influential power for the formulation of industrial policy. In China's automotive industry, the seemingly dispersed industrial structure provided probably the strongest argument used by the incumbent SOEs to persuade the government to implement a strict control on market entry.

Many dimensions should be considered for the development of an industry. As suggested in Section 2.3, industrial development comprises the increase of domestic production capacity, the progress of both static and dynamic efficiency, and the enhancement of international competitiveness. Associated with these facets of industrial development is the central concern of social welfare, which includes the interests of both firms and consumers. With the existence of market dominance of leading firms, as suggested in Subsection 3.3.1, the consumer interests may be severely harmed and welfare losses for the society at large may be significant. The development of domestic enterprises is a legitimate concern under the condition of an infant industry (see Subsection 4.1.3). In case that the government takes this as the only concern for industrial development, however, it may not be easy for it to resist the pressures from domestic firms, particularly large-sized SOEs. This might lead to the so-called 'regulatory capture' in which the government loses sight of the public interest and protect the privileges of established firms (see Subsection 8.1.1 for a detailed discussion). This may have been the case in China's

[13] See Geroski and Mazzucato (2001).

passenger car industry. From the government's point of view, the industrial policy for the automotive industry has been successful in terms of the development of large-sized SOEs. The 'Three Big', FAW, DMC and SAIC, have ranked high in the top SOE list in recent years and SAIC even entered the *Fortune 500* list in 2004 (see Subsection 5.2.2). However, these firms get most of their revenues from the IJVs that they invested in but cannot really control. The passenger cars produced in these IJVs are foreign branded and designed. The most profitable phase of the value chain, new product development, has been largely remained outside China. The core technology and associated Intellectual Property Rights (IPRs) are controlled by MNCs and IJVs are only assembling bases of MNCs.

The fundamental mechanism through which FDI promote industrial development is competition in the condition that foreign entries can reduce concentration and promote rivalry (see Subsection 4.1.2). It is not likely the case in China's passenger car industry, as indicated by high concentration ratios and the particularly large market share of a dominant firm. Although high concentration, as discussed in Subsection 4.2.1, needs not be equated with a lack of competition, it facilitates abuses of market dominance and anticompetitive practices, which are the major interest of competition authorities. In China's passenger car industry, high concentration and extremely large market share of one firm, combined with persistent excess profits, provide convincing evidence of the lack of competition and the existence of market dominance. Without effective competition, the performance of industrial development in China's passenger industry has been poor.

The rents created by protectionist measures have ballooned car prices. Due largely to the protection of the industry, models bear price tags much higher than those in the United States, Europe and Japan. This has allowed IJVs in China to enjoy persistent high profitability. Indicators such as the ratio of after-tax profits to book value assets revealed the abnormal profitability of this protected industry. This ratio was almost three times that of the manufacturing sector at large in 1995. In the case of Santana, the flagship brand of Shanghai Volkswagen, the domestic sales price in 1993 was around RMB¥ 200,000 per car (and the production cost around RMB¥ 85,000), which at the official exchange rate doubled the world price (Dic, 1997). Volkswagen has bulk of its profits coming out of its two China ventures in recent years. In another case, each Honda Accord made by Honda's Guangzhou venture makes over US$3,000 in net profit in recent years, three times of that for a comparable US model.[14] The profitability of China's passenger car industry remained at an extremely high level not seen anywhere else, even in recent years when competition was intensified. In 2002, China's automotive industry realised revenue of RMB¥ 151.5 billion and profits of RMB¥ 43.1 billion. The profitability ratio of the entire industry was as high as 28.54 percent, despite the 5.6 percent reduction of prices. Since the passenger car industry has been dominated by IJVs, it is evident that MNCs have been able to reap high profits and to share a part of the rents behind the high protection.

The market dominance of leading IJVs and the associated high prices and profitability have caused serious problems. The welfare losses caused by the market dominance of a very limited number of firms in the passenger car industry have been significant. According to an estimate by Mckinsey Global Institute (2003), the deadweight loss in China's passenger car sector was approximately US$ 900 million (RMB¥ 7.4 billion) and the excess profits were approximately US$ 3 billion (RMB¥ 24.8 billion) in 2001. According to an estimation of Liang and Van Tulder (2003), the annual deadweight loss caused by market dominance exceeded RMB¥ 10 billion in recent years. The high

[14] According to McKinsey.

profitability reduced the minimum efficient scale of production. As a result, the Chinese automotive industry has still remained highly fragmented, although the market was clearly dominated by leading firms. In 2001, there were still over 100 assemblers, despite some government efforts to promote consolidation. The high profitability protected small and inefficient indigenous assemblers, leading to a seemingly dispersed pattern of industrial organisation, under the pretext of which the government impose a strict control on market entry.

Associated with the high level of profitability in the passenger car industry was the low level of product diversification, particularly before the late 1990s. Since the mid-1980s, the product diversification experienced a long process of slow evolution prior to the dramatic change took place in recent years. After Volkswagen built up its leading position in China, the passenger car industry was dominated by some of its models, at first Santana, a 1970s-era model that has long been out of production elsewhere, and then Jetta and Audi. Other models from TAIC, Dongfeng-Citroën and Chang'an Suzuki provided more options for consumers. After Shanghai GM and Guangzhou Honda began production in the late 1990s, some advanced models were introduced into the Chinese market. In recent years, especially after the WTO accession, an increasing number of car models were introduced by IJVs and some of them entered the Chinese market at the same time as they entered international markets. Even in recent years, some old models, especially the 'Old Three' (Santana, Jetta and Fukang) still took the largest shares of the market (see Table 6-10 for main models in 2000). The passenger car market witnessed an explosive process of product diversification in 2002, with more than 10 new models rolled out off lines. This development ended the reign of Santana and the 'Old Three'.

Table 6-10 Main passenger car models: prices and market shares

Brand	*Market share 2000 (percent)*	*Price May 2001 (Beijing)*		*Producer*
		RMB¥	*US$*	
Santana	18.2	118,500	14,300	Shanghai Volkswagen
Santana 2000	13.5	135,000	16,300	Shanghai Volkswagen
Jetta 2V	13.3	115,000	13,900	FAW-Volkswagen
Alto	8.9	49,500	6,000	Chang'an Suzuki
Charade 7100U	6.4	67,600	8,200	TAIC
Accord	5.3	290,800	35,120	Guangzhou Honda
Buick	5.0	350,000	42,300	Shanghai GM
Audi A6	2.6	441,000	53,300	FAW-Volkswagen

Source: China Business Update Automotive Statistics, 2001.

The lack of competition has also resulted in problems in technological progress. One of the most significant failures of the industrial policy for China's passenger car industry has been in the technological aspect (see Peking University, 2004, in Chinese). Few SOEs have yet managed to establish strong R&D capabilities and to develop original brands. Domestic technological capability has not been established in the passenger car sector as expected. This highlights the failure of the 'market for technology' strategy (see Subsection 2.3.3) in this specific sector. Because the core technologies and associated IPRs are fully controlled by MNCs, China's passenger car industry as a whole can be considered as merely a production base for MNCs.

6.2.4 Intensified Competition after the WTO Entry

Coupled with the reduction of trade barriers, a certain degree of deregulation toward a

more open industrial environment has taken place in the automotive industry since the late 1990s. As a result, entry barriers have been reduced and more IJVs have been established. Many new models of passenger cars entered the Chinese market by Complete Knock Down (CKD) or Semi Knock Down (SKD) assembly. As the production capacity of the industry increased rapidly and some latecomers speeded up their presence in China, competition was intensified. Despite all these developments, excess profitability persisted even into recent years. However, greater competition has begun to squeeze margins. As tariffs fell, so did prices. Sales and marketing costs rose in a more competitive market and more frequent model upgrading meant that heavier investment would constantly be needed.

Meanwhile some non-IJV assemblers entered the passenger car industry. Among them, Geely and Chery have been the most successful (see Table 6-11 for their production and market shares). Both of them did not get formal licenses from the system of product catalogue management when first entering the market. Geely, the only private-owned car assembler in China, entered the automotive industry by acquiring a small SOE in Sichuan to procure the license for producing small-sized passenger vehicles. In 2001, Geely finally got the license to produce passenger cars. In 2003, Geely accounted for about 20 percent of the compact-car market and began to export. In order to get the license, Chery transferred 20 percent of its equity to SAIC and renamed SAIC-Chery in 1999. In 2003, Chery became one of the eight firms with the production of over 100,000 passenger cars.

Table 6-11 Production and market shares of Chery and Geely, 1999-2003

Firm	*1999*		*2000*		*2001*		*2002*		*2003*	
	Production (units)	*MS (%)*	*Production (units)*	*MS (%)*	*Production (units)*	*MS (%)*	*Production (units)*	*MS (%)*	*Production (units)*	*MS (%)*
Chery	/	/	2,600	0.4	30,070	4.2	49,397	4.5	101,141	5.0
Geely	3,750	0.7	11,425	1.9	23,808	3.3	47,443	4.3	85,000	4.2

Sources: CAAM

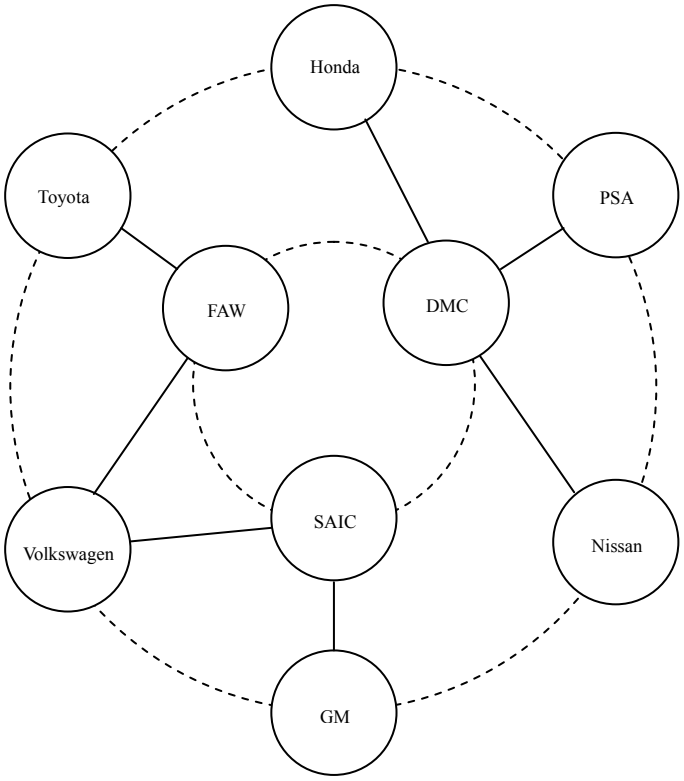
The recent success of Geely and Chery in China's passenger car industry demonstrates that domestic brands can establish their competitiveness in a market that has already been dominated by international brands. Another important implication is that an independent industrial development model may be a feasible approach to developing China's passenger car industry. In terms of international competitiveness, China's 'middle way' approach for the development of the passenger car industry has been failed, as firms focusing on reaping high profits in domestic market rather than competing in international markets. In contrast to IJVs, which totally focus on reaping high profits in the domestic market, these domestic enterprises have a natural propensity to expand internationally.[15] Both Geely and Chery have strong ambitions to enter international markets. In 2003, Geely began to export to Middle East and the United States. Chery exported 1200 cars, accounting for half of China's passenger car exports. In 2004, Chery's assembler in Iran began production. The equity restriction, which does not allow MNCs to enter China via WFOEs or IJVs with majority ownership, has discouraged MNCs to conduct efficiency-seeking investment and to build up export base in China, which took place in some South American countries following a dependent model of industrial development. This explanation has been strengthened by a new development in China's passenger car industry. Honda's second car

[15] Recently, Shanghai Volkswagen and Shanghai GM began trial shipments to foreign markets. But they still do not have large-scale export plans.

plant under construction is the first IJV with majority foreign ownership permitted by the Chinese government. It is also the only firm manufacturing solely for export.[16] While the export of passenger cars is just getting started, the export of components has reached a considerable scale – China shipped US$ 2.4 billion car components in 2003.

As MNCs expanded in China after its WTO entry, more IJVs were established and investment in China's passenger car industry became a game of big money. The original industrial structure shaped by the waves of inward FDI is under dramatic change and a new structure has come into being (Figure 6-6 illustrates the core structure of the current automotive industry). With the explosive growth of passenger car sales, China has become a major market for many MNCs and thus a crucial battlefield for them. Almost all car assemblers in China are installing capacity at high speed. Volkswagen, for example, is investing € 5 billion over the coming years to protect its leading market position against increasing competition.

Figure 6-6 Core structure of the Chinese automotive industry



[16] See Murphy, 'Driving ambition', *Far Eastern Economic Review*, May 27, 2004.

Changing policy environment after the WTO entry dramatically altered the competitive environment in the industry and, therefore, will greatly influence the future of China's automotive industry. With the trade barriers reduced gradually after the WTO accession, a new round of industrial concentration (centred on the 'Three Big') and a new wave of FDI inflows accelerated simultaneously, making competitive situation in China's passenger car industry more complex. The dominance of MNCs may be extended to the whole industry, as some late-coming MNCs and ready-positioned SOEs signed agreements to form IJVs producing a whole range of motor vehicles. Examples are the agreements between FAW and Toyota as well as between DMC and Nissan. Both agreements were signed in 2002 and involved investing billions of US dollars (see Table 6-12 for some details of the agreements). Before the agreement between DMC and Nissan, all IJVs are 'partial' equity cooperation, which means that domestic firms put part of its assets or/and cash in the IJV. The agreement between DMC and Nissan initiated a model in which domestic firms put virtually all its production capacity, including the competitive and profitable truck production, in the IJV. Behind the deal between DMC and Nissan is Renault, which acquired Nissan in 1998 and formed the fifth biggest corporate group in the global automotive industry. The global restructuring has had its effect on competition in China, as demonstrated by the cases of Renault-Nissan-DMC and DaimlerChrysler-Mitsubishi Motor-BJC.

Table 6-12 'Big Deals' in 2002

Project	*Some Details*
DMC Honda	● Date of agreement: July 10th, 2002
GAG	● Production coverage: passenger cars totally for export
	● Sales target: 50,000 (2004) as beginning production capacity
FAW Toyota	● Date of agreement: August 29th, 2002
	● Equity share: 50-50
	● Investment: RMB¥ 21 billion*
	● Production coverage: medium-grade and luxury passenger cars, mini cars and sport-utility vehicles
	● Sales target: 300,000-400,000 (2010)
	● Makes mini cars in Tianjin starting in 2003, with annual production of 100,000 vehicles; makes Toyota-branded luxury SUVs starting in 2003; makes large and medium-sized luxury sedans starting in 2005 with annual production of 50,000 at the facility in Tianjin.
DMC Nissan	● Date of agreement: September 19th, 2002
	● Name of the IJV: DMC
	● Equity share: 50-50
	● DMC invests by all its main assets (production bases in Shiyan and Xiangfan); Nissan invests by cash: RMB¥ 8.55 billion (US$ 10.3 billion) and RMB¥ 5.33 billion (US$ 6.16 billion) in product development prior to 2006
	● Production coverage: Trucks, light commercial vehicles and passenger vehicles
	● Sales target: 550,000 (2006) including 330,000 commercial vehicles
	● Commercial vehicles use DMC's brands; passenger vehicles use Nissan's brands

Source: *Shanghai Securities News*, September 22, 2002.
Note: * Estimated by Fujo Cho, President of Toyota.

In the new 'Five-Year Plan', the Chinese government showed its intention to consolidate the nation's automotive industry into two or three strong companies. It provided a policy foundation for industrial concentration in the form of affirmative corporate restructuring, combined with all-round foreign cooperation. Domestic automotive firms will further seek cooperation with its foreign partners to enhance its competitiveness to tackle the challenges following China's entry into the World Trade Organisation. Thus, this industrial concentration is a mixture of domestic production

restructuring and a new round of FDI inflows. This new round of industrial restructuring has been launched since 2001. Several smaller firms have jointed the three biggest groups usually through the way of state-owned equity transfer without payment. For example, SAIC acquired Liuzhou Wuling Automotive Company, Ltd. (Wuling Automotive), one of the biggest mini van and truck producers in China. This deal was propelled by the needs of further cooperation between SAIC and General Motors. After the deal, SAIC became the biggest automotive company in China in terms of both revenue and production. SAIC also acquired Chery, which has production capacity of 100,000 passenger cars and 300,000 engines. Similarly, FAW acquired the core assets of TAIC and the controlling equity share of Sichuan Van Plant. Therefore, FAW has three production bases located in Chuangchun, Tianjin and Chengdu respectively. Behind this structure are the needs to comprehensively cooperate with Toyota, which has IJVs with TAIC and Sichuan Van Plant separately.

6.3 Determinants of Market Structure: Hypothesis Development

In Subsection 6.2.3, evidence has been provided to verify the lack of competition and the existence of market dominance in China's passenger car industry. The evidence includes the high concentration, the high level of market shares of leading firms, the high level of prices and firm profitability. The consequences of the problem are discussed. To interpret the policy implications of this phenomenon, the central concern is to explain the sources of the existing market dominance. In addition to the qualitative analysis in Subsection 6.2.3, quantitative investigation will be conducted to identify the determinants of the lack of competition in the passenger car industry. Market share is the most direct single indicator of the firm's ability to abuse its market power (see Subsection 4.3.2). Market structure is of interest also because of its effect on firm behaviour – high market share are likely to be associated with the possibility of anticompetitive practices. Thus, observing market share and its distribution is a logic starting point in an enquiry into possible position of market dominance. By investigating the determinants of market share achievements of firms, we can approximately identify the sources of market dominance. The determinants reflect the qualification of the impact of interaction between government policies and MNC strategies. Following the 'new industrial organisation', as noted in Section 5.3, firms were not seen as passive entities alike, instead they were treated as active entities that often follow different strategies. This section investigates the determinants of the market shares of IJVs in China's passenger car industry. The theoretical framework constructed in Subsection 4.3.3 to analyse the determinants of foreign market share achievements of MNCs is adopted. We use polled time series cross-sectional data for China's passenger car industry to test this theory for the 1985-2003 period.

For firms, market share is a key measure of business performance and is a relatively visible and easily monitored indicator of the success of the strategies that management has adopted. Many 'market driven' companies use share of market rather than volume of profit as the primary measure of business success. In the automotive industry, the historical success of Japanese MNCs was primarily based on their strategic targeting of maximum market share rather than maximisation of profit. In Central and Eastern Europe – after the fall of the Berlin Wall – many new entrants 'bought' themselves market share, by acquiring majority shares in local car-producing companies (Van Tulder and Ruigrok, 1998). Market share is the outcome of competition, the measure of firm competitiveness and the indicator of market power. In more restricted markets, or in markets with oligopolistic competition, market share can also represent the firm's relative success in raising entry barriers to other

firms. Theoretical gaps remain in the literature on the determinants of foreign market share performance (see Subsection 4.3.3). Furthermore, most previous studies are based on cross-sectional analyses, which make it difficult to explore the relation between entry strategies and market share performance over time. Many preceding studies are cross-industry studies based on the standard industrial classification, ignoring the problem of 'relevant market' and neglecting some prominent differences among industries. For research on the determinants of foreign market share achievement, both cross-industry and intra-industry studies can be expected to generate relevant insights. However, to address the above theoretical and methodological limitations, longitudinal studies on specific industries are particularly needed. Facing the complexity of foreign market entry, intra-industry case studies are more relevant to generate insights and to expand and generalise theories. China's passenger car industry since the mid-1980s provides an appropriate case to study thus to fill the gaps. For a dynamic intra-industry study of market share in this industrial context, the crucial challenge lies in identifying relevant determinants in a specific context, using in particular micro variables that are typically of greater policy implications. In the study of the specific industrial setting in China's passenger car industry, all country- and industry-specific factors can be controlled so that we can focus on firm-specific strategic and industry-specific institutional factors. The high degree of complexity of entry modes can also be simplified and therefore a number of dimensions of entry strategy can be controlled, which facilitates a clear-cut and simultaneous test of the effects of relevant aspects of government policies and entry strategies of MNCs (cf. Liang and Van Tulder, 2004a).

6.3.1 Entry Strategies of MNCs: Strategic Determinants

Facing a dramatically changing industrial context, foreign car manufacturers operating in China face a different decision making environment as they face in matured markets in Europe or North America. In China's passenger car industry, trade barriers eliminated most of the room for the choice between export and local production. Government policy restrictions made many investment modes not practicable. The industrial policy, aiming at building a 'national automotive industry', prescribed that the local partner in the IJV producing motor vehicles must take over 50 percent of equity. As the basic entry mode choice for foreign investors was thus constrained to IJV, the mode of entry can be generally controlled in our analysis of entry strategies, while local partner selection becomes crucial. Accordingly, the location decision within the host country is also incorporated into the process of local partner selection. A specific analysis of entry strategy that takes a number of theoretical deficiencies and the characteristics of China's passenger car industry into account should particularly include the following four aspects: timing of entry, local partner selection, scale of entry and sequencing of entry in terms of entry scale. All these aspects reflect the outcome of interactions between MNC strategies and government policies. For instance, entry order is the result of interactions between MNC strategies of entry timing and government restrictions on market entry. A decision on investment scale was usually not an optimal strategic choice based on business performance consideration but the outcome of a negotiation process between MNCs and local partners as well as their superiors (see a discussion in Subsection 6.4.3).

Order of entry

As entry mode options were limited by policy restrictions, the timing of entry became a crucial strategic choice for MNCs interested in China's passenger car market. Government

policy created entry barrier for firms, limited the number of firms in the industry and restricted the contestability of the market. When entry barriers limit the number of firms in a particular industry, those who have entered early often have greater monopolistic power (Hay and Morris, 1986; Lambkin, 1988). On the other hand, in the special context of post-reform China, economic and industrial circumstances were changing so rapidly that different timing strategies mattered considerably, even within a relatively short period. When several first-movers entered in the mid-1980s in the first wave of FDI, the passenger car industry was virtually non-existent and the market was dominated by imports. By the late 1990s, when a number of MNCs entered in the second wave of FDI, they faced a market which had been primarily developed and become dominated by the successful first-movers. When some late entrants came in after China WTO' entry in 2001, the Chinese automotive market was experiencing a demand boom and a rapid sale takeoff. The entry timing strategies of MNCs shaped the order of entry in the industry, which accordingly influenced the market share achievements of the IJVs in which MNCs invested.

Why do so many firms try to enter a new market earlier? Studies on the relation between entry order and firm performance demonstrate that early movers in a given product sector enjoy specific competitive advantages. First-mover advantages are widely studied in industrial organisation, strategic management and marketing. A first-mover advantage arises when the market pioneer develops a sustainable competitive advantage over late entrants. First-mover advantages stem from several sources: technological leadership, preemption of assets, buyer switching costs (Lieberman and Montgomery, 1988) and advantages in transition economies in particular (Luo and Peng, 1998; Van Tulder and Ruigrok, 1998). Besides the advantages of being a pioneer, however, there are also disadvantages and risks associated with the first move decision. The success of Volkswagen in China proves the lush rewards to a first-mover, while the failure of Guangzhou Peugeot also shows how risky it is to be a pioneer.

Entry order effects exist, especially with respect to market share (Lieberman and Montgomery, 1998). Empirical studies have found enduring market share advantages for first-movers (Robinson and Fornell, 1985; Urban *et al.*, 1986; Lambkin, 1988; Mitchell, 1991; Robinson *et al.*, 1992; Huff and Robinson, 1994; Robinson *et al.*, 1994). Although the entry timing decision in a domestic industrial setting, which focuses on the evolutionary process of technology, product and industry, is different from that in an international industrial setting, the similarity to enter a new market suggests that the principle of first-mover advantages may apply to the international context. The inter-market impact of pioneering is greater than the intra-market effect and early entry provides an important source of competitive advantage in international setting (Mascarenhas 1992a, b). First-mover advantages may be amplified when host country uses incentives to encourage inward FDI (Brewer, 1993). Pan *et al.* (1999) examined the unique features of international markets in general and the case of China in particular, to identify the issues that may enlarge the first-mover advantages in international markets. Nakata and Sivakumar (1997) analysed how the characteristics of emerging markets were likely to affect first-mover advantages. The early movers into emerging economies are expected to have considerable preempt opportunities and benefits from market, product and technological leadership (Luo, 1998). Thus, we hypothesise:

Hypothesis 1: The earlier an MNC enter a host market, the larger its market share will become.

Scale and sequencing of entry

The stages model of entry (Johanson and Wiedersheim-Paul, 1975) suggests a sequential pattern of entry mode decision, generally distinguishing four different modes of entry at different stages of entering a foreign market. However, the sequencing of foreign market entry in terms of entry scale still has not been investigated. Entry scale and entry sequencing – the two usually overlooked aspects of entry strategy – are interrelated. The entry sequence reflects the changing pattern of entry scale and also the change of firm size, which has long been identified as a determinant of performance. With regard to entry scale and related sequencing, there are two different strategic choices: the sequential (step-by-step) and the 'decisive' approach. The sequential approach begins with a relatively low production capacity and accordingly a relatively small investment scale. The incremental capacity buildup represents a progressive deepening of commitment to a foreign market. The decisive approach begins with a large-scale production capacity and accordingly a large investment, which represents an immediate strategic commitment to a foreign market.

It is suggested that large-scale entry is of limited value in international markets (Mascarenhas, 1997). Large-scale entry into smaller international markets is connected with the risk of the inability to recover the high overhead costs with limited sales. Higher international resource commitment translates into higher exposure to risks. The market success gained by Shanghai Volkswagen and Guangzhou Honda in China suggests that a step-by-step entry approach is a practical strategy to restrict risk and enhance performance. In contrast, Dongfeng-Citroën, which entered with a very large-scale investment, suffered considerably from the heavy depreciation and interest burden of its massive capital investment and commercial loan. The changing scale of accumulated investment since the year of market entry reflects the scale and the related sequencing of entry. The relatively small initial investment scale of Shanghai Volkswagen and Guangzhou Honda allowed them not only to realise a quick startup of their local operations but also to make profits from the beginning. Nevertheless, the minimum amount of investment necessary for the business success in automotive industry can still be considered substantial. For a step-by-step strategy, continuous incremental investment is necessary as well. Thus we make the following hypothesis:

Hypothesis 2: The bigger the investment scale, the larger the market share will become.

6.3.2 Government Support and Traits of IJVs: Institutional Determinants

A variety of objectives have been suggested to explain firms' motives to form IJVs (Beamish and Banks, 1987; Contractor and Lorange, 1988; Kogut, 1988; Hennart, 1991; Inkpen and Beamish, 1997). Previous studies have found some support that joint ventures are a form of strategic behaviour to increase market power, or firm competitive advantage. The resource-based view on competitive advantage holds that certain firm assets with certain characteristics will lead to sustainable competitive advantages. This view argues that differential firm performance is fundamentally due to firm heterogeneity (Rumelt, 1984, 1991; Wernerfelt, 1984). Joint venture involves a combination of firm strategic resources of the partners. The competitive advantage of a joint venture is determined by the resources gained from the parent companies. In the case of IJVs in China's passenger car industry, foreign partners and local partners contribute different sources of competitive advantage, as they put different kinds of resources into the joint ventures. MNCs provide capital, technology and management know-how; state-owned local partners contribute land,

skilled workers, local knowledge, and, most importantly, their close relationship with the government and their preferential position in the industrial policy.

Government support

Partner selection is a crucial factor influencing IJV performance. It influences the mixed skills, knowledge and resources and thus the IJV's ability to achieve its strategic objectives (Killing, 1983; Harrigan, 1985). The characteristics of local partners influence the degree of resource complementarity and organisational and strategic fit between local and foreign partners (Luo, 1997). Local partner selection is especially important in transition economies that face the challenges of structural reform, weak market structure, poorly specified property rights and institutional uncertainty (Nee, 1992). Criteria for selecting complementary local partners for IJVs differ considerably since IJVs vary according to their specific national and industrial context. The relative importance of IJV partner selection criteria is determined by the strategic context of the proposed venture and the parent firms. It is also related to the critical success factors of the IJV's competitive environment and the parent firm's position *vis-à-vis* these factors (Geringer, 1991). In China's passenger car market, one of the most critical success factors is the degree of government support given to a state-owned local partner. Government support will help IJVs increase profitability, reduce uncertainty and boost its competitive edge in the host market.

In the study of the automotive industry, national states have long been considered a major force in shaping the industry (Ruigrok and Van Tulder, 1995; Dicken, 1998). The government support towards the state-owned local partners in China's passenger car industry materialises at two levels: central government support within the framework of industrial policy and local government support. The automotive industry has been the first Chinese industry to be backed by a formal state industrial policy. The influence of local governments should be equally considered in the process of local partner selection. Dic (1997) criticised the opportunism of local authorities that led to the fragmentation and miniaturisation of the Chinese automotive industry. Local governments used their regulatory and other discretionary powers to favour the purchase of motor vehicles produced within their jurisdiction. This has created protected local markets and accordingly a segmented national market. As argued by Luo (1998), firm strategic and organisational traits are crucial considerations in local partner selection. Government support is the key aspect in evaluating the qualification of a local partner in China's passenger car industry. Therefore:

Hypothesis 3: The stronger the government support, the larger the IJV's market share will become.

International experience of MNCs

The synergy between foreign and local partners is an important factor that influences the competitive advantage of an IJV and accordingly affects its business performance. The synergy between the partners decides whether the combined resources can generate (as intended) or ruin competitiveness. China's automotive industry and the overall economic, social and cultural context have provided car-producing MNCs a different business environment from what they experienced previously. It can be supposed that experience in international operations plays an essential role in the process of the adaptation to the different business environment and the harmonious cooperation with state-owned local partners. The management of MNCs that has to coordinate more international operations is more efficient in dealing with the intricacies of market entry and competition and in

reaping the benefits in the transition economy like China. International experience is an important predictor for overseas expansion performance (Luo and Peng, 1999). It has been observed that a firm's foreign experience enhances its performance in terms of business survival and market share performance (Mitchell *et al.*, 1992; Mitchell *et al.*, 1993; Shaver *et al.*, 1997). Therefore we predict:

Hypothesis 4: The more experienced in international operations the foreign parent is, the larger the IJV's market share will become.

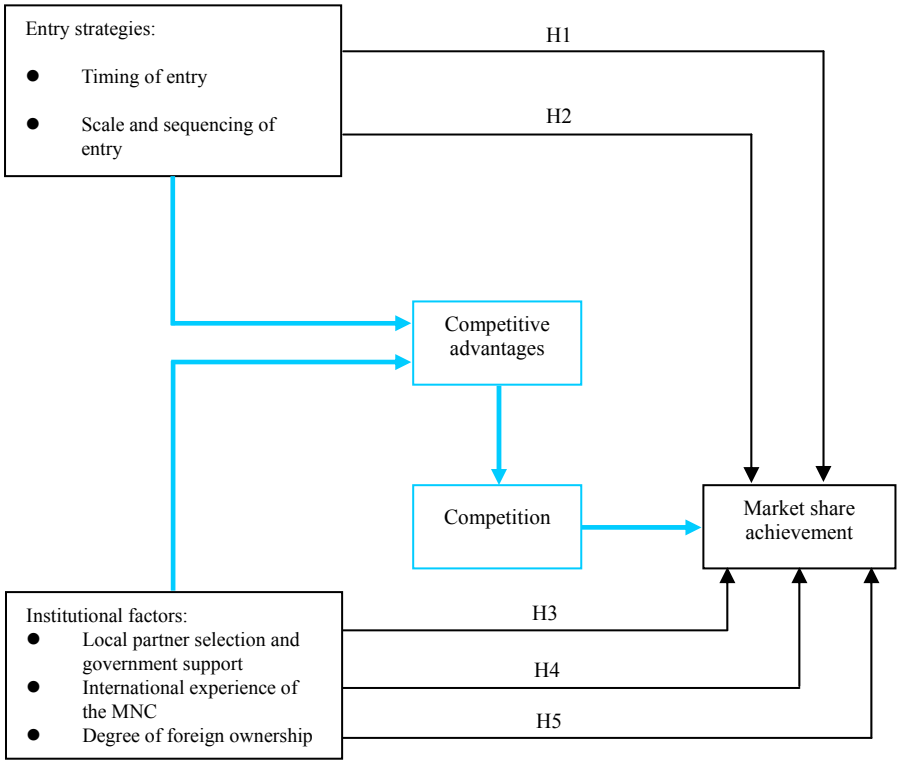
Degree of foreign ownership

As MNCs bring more strategic resources than state-owned local partners, they usually contribute more to the IJV than their local counterparts. A strong correlation between commitment and joint venture performance has been suggested (Beamish, 1988; Lee and Beamish, 1995). The equity share arrangements of IJVs influence the commitment of MNCs and accordingly their competitive advantage contribution to the joint ventures. Thus the degree of foreign ownership reveals the strategic commitment of the car-producing MNCs and influences the business performance of an IJV. Furthermore, the degree of foreign ownership influences the extent of control, which is associated with the performance of MNCs. It has been argued that, in China, having a majority stake improves IJV performance from a foreign parent perspective (Luo *et al.*, 2001). Several cases of unsuccessful business in China's passenger car industry are related to lower foreign equity share or dispersed equity structure. Accordingly we hypothesise:

Hypothesis 5: The higher the degree of foreign ownership, the larger the IJV's market share will become.

Figure 6-7 illustrates the analytical framework of this study and summarises the structure of the hypotheses. The propositions on the complex causal relationships among proprietary assets, entry strategies, institutional factors and competitive advantages (see Subsection 4.3.3) are not covered by this study.

Figure 6-7 Determinants of market share achievement: analytical framework and hypotheses



6.4 Test, Results and Discussion

We used polled time series cross-sectional (TSCS) data from China's passenger car industry to test the hypotheses over a period of almost 20 years (1985-2003).[17] This period covers the entire span during which foreign entry has been facilitated. The relation between entry strategies and business performance is essentially dynamic, so researchers should be interested in what is taking place over time. However, the typical cross-section studies are limited in this respect. The pooling of time series (T=19 years) and cross-sections (N=13 firms) in this study enable us to address this concern.

6.4.1 Data and Measures

The first two IJVs in China's passenger car industry began production in 1985, so we used this year as the starting point for our study period. Between 1985 and 2002, 13 IJVs, all between MNCs and local partners, were established and began production (see Table 6-5).

[17] The data for 2003 covers the first half of the year.

Most leading car-producing MNCs have invested in China. Different companies chose different entry strategies and entered the industry at different moments. During the study period, in 1998, one of the IJVs, Guangzhou Peugeot, terminated its business. Accordingly, the years of the first and last observations for each firm time series are not always the same. We took account of all the units in the population of IJVs in China's passenger car industry and used the unbalanced panel data to test the hypotheses. Production data of different IJVs and the total industry over the period 1985-1998 were from the 'Yearbook of Chinese Automobile Industry 1999' published by the CAAM. Production data of the following years were obtained from other publications of the CAAM. Data of IJVs were from sources of the CAAM or directly obtained from firms. Data about internationalisation strategies of relevant MNCs were from the UNCTAD/Erasmus University Database (cf. UNCTAD, 2002). The measures of dependent and independent variables are as follows:

Market share achievement. To define the dependent variable for the market share analysis, we measured the percentage of an IJV's production *vis-à-vis* the total production in China's passenger car industry in each year that the firm participated in the industry.

Timing of entry. With regard to the relationship between entry timing and market share achievement, two variables matter: the order of market entry and the lead-time, or the time between entries. To take both factors into account, we used the length of time between 1985 and the time of entry, measured by years, to measure entry timing. The first year of production rather than the year of establishment of an IJV was defined as the year of market entry, because the year of establishment was often followed by years of construction before production, which varied considerably among different IJVs.

Scale and sequencing of entry. The annual data of accumulated investment since the year of market entry was used as the measure of scale of entry and the sequencing of entry in terms of entry scale. This measurement can reflect the dynamic process of production enhancement, which represents the strategic decision of entry sequencing.

Government support. Government support towards a state-owned local partner was measured by two criteria: 1) the position in the 'Three Big and Three Small' system[18], 2) the degree of local government support, on a 5-point scale from 1 (very weak) to 5 (very strong). We used this method to measure the qualification of local partners for two reasons. First, in China's passenger car market, the primal criteria for selecting complementary local partners for MNCs is the degree of government support given to a state-owned partner. Secondly, the strategy of 'Three Big and Three Small' generally reflects the qualification (in terms of size, technology and management) of SOEs and accordingly gives MNCs a clear evaluation for their potential joint venture partners.

Degree of foreign ownership. The degree of foreign ownership was measured by total foreign equity share, the percentage of equity held by the foreign partner (or partners). The annual data of total foreign equity share took into account the changes in the equity structure of the IJVs. All the equity held by non-domestic entities was included in the total foreign equity share. Usually the foreign equity share is held by one or several specific

[18] In a meeting held by the State Council in 1987, FAW, DMC and SAIC were identified as three major production bases of passenger car. In 1988, three smaller car assemblers in Beijing, Tianjin and Guangzhou were supplemented. In a meeting on automotive industry in 1991, the strategy of 'Three Big and Three Small' was stressed.

companies within the business group of an MNC. For example, Volkswagen AG and Audi AG hold 30 and 10 percent of FAW-Volkswagen's equity respectively, making total foreign equity share 40 percent. In one special case of Dongfeng-Citroën, two French banks hold 3.125 percent of equity.

International experience. Previous studies have explored different levels of international experience, namely, general, regional, country and local (Li, 1994; Benito and Gripsrud, 1995; Barkema *et al.*, 1997; Luo and Peng, 1999). This study focused on the general level of international experience and operationalised it at firm level by the transnationality indexes (TNI) of the MNCs in the relevant years. The TNI was calculated as the share of foreign to total assets, reflecting both the intensity and the diversity of exposure to foreign investment and production activities.

6.4.2 Analysis and Results

Both the temporal and cross-sectional properties of TSCS data make the use of Ordinary Least Squares (OLS) problematic. There are several potential violations of the OLS standard assumption: 1) errors may be heteroscedastic; 2) errors may be autocorrelated; 3) errors may be correlated across units. The model of market share achievement can be estimated in several ways. The appropriate technique depends on the structure of error term and temporal properties of the panel data. Parks (1967) proposed a method based on generalised least squares (GLS), which allows for temporally and spatially corrected errors, as well as for heteroscedasticity. Beck and Katz (1995) pointed out that Parks method lead to underestimates of parameter variability in common research situation and showed the degree of overconfidence induced by this method. They also proposed a method, which combines OLS parameter with panel-corrected standard errors (PCSE), allowing for accurate estimation of variability in the presence of panel error structures without inducing the problems caused by the Parks method. We applied both of these methods to test the hypotheses. We also used lagged dependant variables and time dummies to tackle the problem of autocorrelation and heteroscedasticity and to take account of the time dynamics of the panel data.

Before conducting the tests for hypotheses, we first examined the temporal properties of the panel data. In order to examine the residuals for the evidence of autocorrelation and heteroscedasticity, we used the panel data to estimate a pooled OLS model. The Durbin-Watson statistic (DW=0.840) was a strong indication of the presence of autocorrelation in the residuals. To examine whether the residuals from this pooled regression are heteroscedastic, we tested the equality of the variances of the residuals for each firm. The test statistics (Table 6-13) decisively rejected the null hypothesis of equal variance of the residuals across firms, providing strong evidence of the presence of heteroscedasticity.

Table 6-13 Tests for heteroscedasticity

Method	*Df*	*Value*	*Probability*
Bartlett	12	66.3159	0.00000
Levene	(12, 101)	3.91568	0.00006
Brown-Forsythe	(12, 101)	3.14286	0.00079

To correct for these maladies, we tested the hypotheses by the Parks estimator (Model 1). Model 2 used PCSE and lagged dependant variables to deal with the problem of autocorrelation and heteroscedasticity and to take account of the time dynamics. Model 3

further included dummy variables to check for time specific effects: if all the IJVs in China's passenger car industry were subject to the common shocks in given years, which would be taken into account by a series of time dummies.

Table 6-14 presents the results, which are generally consistent with our *a priori* expectations. Hypothesis 3 received strong support by model 1, 2 and 3. The results underlined the importance of local partner selection (in terms of government support) towards IJVs. Model 1, 2 and 3 also strongly supported Hypothesis 4 and 5: international experience of MNCs and the degree of foreign ownership played a significant role in determining market share achievement. Hypothesis 2, on the other hand, was rejected. Contrary to the hypothesis prediction, Model 1 proved that investment scale was significantly and negatively related to market share achievement. Model 2 (b=0.005; p=0.128) and Model 3 (b=0.002; p=0.214) demonstrated an insignificant negative relationship between investment scale and market share achievement. Hypothesis 1 was supported by Model 1 and 2. The inverse relationship between entry timing and market share indicated that the earlier the IJV was established, the greater its market share would become; and the longer the lead-time was, the wider the market share gap would be. However, Hypothesis 1 was rejected by Model 3, which took into account the effects of specific years.

Table 6-14 Results of analyses

Variables (Predicted sign)	*Model 1*	*Model 2*	*Model 3*
Intercept	-0.059***	-0.137*	-0.109***
	(-2.721)	(-1.832)	(-3.241)
Entry timing	-0.004***	-0.004*	-0.001
(-)	(-2.679)	(-1.688)	(-0.511)
Investment scale	-0.006***	-0.005	-0.002
(+)	(-4.970)	(-1.536)	(-1.253)
Government support	0.055***	0.041*	0.020**
(+)	(41.64)	(1.866)	(2.472)
Transnational index	0.068***	0.074**	0.066**
(+)	(2.837)	(2.087)	(2.124)
Foreign equity share	0.025**	0.169*	0.106**
(+)	(2.176)	(1.733)	(2.315)
AR (1)	0.766***		
	(23.39)		
MS (-1)		0.612***	0.741***
		(3.697)	(6.512)
1986			0.269*
			(1.904)
1987			-0.035
			(-0.437)
1988			0.065***
			(4.200)
1989			0.123***
			(4.485)
1990			-0.018
			(-0.728)
1991			0.044**
			(2.577)
1992			0.023*
			(1.669)
1993			0.020
			(1.015)
1994			0.003
			(0.161)
1995			0.026*
			(1.997)
1996			0.025
			(1.643)
1997			0.025**
			(2.084)
1998			0.026**
			(2.038)
1999			0.013
			(1.107)
2000			0.015
			(1.522)
2001			0.008
			(0.976)
2002			-0.002
			(-0.191)
Adjusted R^2	0.808	0.853	0.910
Durbin-Watson statistic	2.030	1.986	1.950

Note: 1) T-statistics shown in parentheses. 2) *** p<0.01; ** p<0.05; *p<0.1.

The hypothesised models fitted the data well. The hypothesised variables explained a significant proportion of the variation in market share. This means that most part of the

variation in market share achievement can be attributed to at-entry strategic and organisational factors. The more the variation of market share achievement can be explained by the at-entry factors, the more dynamic the industry is (see Subsection 4.3.3). Thus the results of the analysis also confirm the dynamic nature of China's automotive industry.

6.4.3 Discussion

The empirical inquiry traces the strategic and institutional determinants of market share achievements (as an approximate measure of market dominance) of IJVs in the dynamic industrial setting in China's passenger car industry. The result of the analysis demonstrates the effectiveness of the theoretical framework presented in Subsection 4.3.3 in explaining the determination of market share achievement in a dynamic industry setting. This analysis suggests that the foreign market share performance of firms can be modelled in terms of firm level strategic variables and institutional characteristics. We find that in the dynamic industrial context of China's passenger car industry, entry order, government support (partner selection), the degree of foreign ownership and the international experience of MNCs determine their market share achievement. The causal relationship between government policy and the lack of competition is highlighted. Investment scale is not positively related to market share achievement. This finding is not consistent with common sense but can be easily explained for China's passenger car industry. In a largely protected market with extraordinarily high prices and profits, investment scale played a relatively marginal role in business performance, because the lack of competition lowered the minimum efficient scale of production and reduced the importance of cost advantage in market competition. Furthermore, massive capital investment made firms more vulnerable to heavy depreciation and interest burden. The relatively small market size in an infant industry of a transition economy made it hard to fully utilise the production capacity, which made the problem of depreciation and interest burden even worse.

As suggested in Subsection 4.3.3, it could be possible to measure what proportion of the variation in market share achievement can be attributed to at- and after-entry factors respectively by decomposing the sources of market share achievement variation. Thus the results of the analysis confirm the dynamic nature of China's automotive industry – a large proportion of the variation in market share achievement can be attributed to the at-entry factors such as entry order, government support towards local partner, the degree of foreign ownership and the international experience of MNCs. As argued in Subsection 6.2.3, government policy, pre-entry competition among MNCs and after-entry market competition among IJVs have jointly determined the structure of China's passenger car industry. The results of the analysis shows that the first two factors play a dominant role in determining the market shares of IJVs and thus the market structure of China's passenger car industry. The role played by after-entry market competition in determining IJVs' market share achievements is very limited. Therefore government policies and MNCs' strategic reactions to these policies have to a large extent determined the market structure of the industry and granted dominant position(s) to specific firm(s). Clearly, the restriction to competition has been largely from government intervention rather than private behaviour, although firms' strategic reactions did strengthen the anticompetitive effects of government intervention.

The result of the analysis has significant managerial implications as well. China's post-reform passenger car industry represents a typical fast-growing market environment and dynamic industrial setting. For both sides of the IJVs, our findings have significant

implications. But they are especially relevant to the MNCs, which enter in a new market and face a totally different environment for their strategic decision. MNCs need to be aware of the performance implications of foreign market entry strategies. Entry timing is proved to be crucial to market share achievement. Taking into account special contingency factors such as strong government intervention in transition economies, we also suggest that local partner selection is particularly important for market success. Equity structure arrangements are another key issue in joint venture formation besides local partner selection. The arrangements determine the strategic commitment of MNCs, accordingly their contribution to the competitive advantages of IJVs, and ultimately the IJVs' market share achievement. This study also shows that the experience in international operations is amongst the most important determinants of foreign market share. The management of MNCs with experience in coordinating more international operations shows greater success in dealing with the intricacies of market entry and competition in a transition economy like China.

The result of the analysis also implies that government intervention may lead to uneconomic decisions of firms. The successes of some recent IJVs such as Guangzhou Honda show that a light-asset strategy is an optimal choice in terms of entry scale. In China's passenger car industry, investment scale plays an insignificant and even negative role in determining market share achievement. Relatively small investment scale allowed the company to realise a quick startup of the operations and make profits from the beginning. In the passenger car industry, a large-scale investment decision was usually not an optimal strategic choice based on business performance consideration but the outcome of a negotiation process between MNCs and local partners and their superiors (local governments or departments of the central government). This reflects the high cost involved in acquiring an entry license in the intense pre-entry competition among MNCs, which generally does not lead to optimal investment decisions for them.

The pre-entry strategic characteristics, like foreign equity ownership, reflect both what the foreign firm wants and what it can or cannot get from the local side (Gomes-Casseres, 1990). The pre-entry competition is a part of the multi-dimensional competition faced by MNCs in many Chinese industries. In the process of negotiation with a local partner and its superior, several interested MNCs participate and compete for the entry license. Some specific policy preconceptions are on the wish list of the local bargaining partner. Usually the entry strategy reflects not the specific efficiency considerations of an individual MNC, but the outcome of a complex game in which the needs from the local side are traded-off against the offers from a number of competing MNCs. Consequently, the pre-entry negotiation and competition process may lead to uneconomic entry strategic decisions for MNCs. Balancing between the benefits of early market entry and the costs of strategic concessions to get a license is crucial to appropriate entry strategy.

Because this empirical inquiry is a study of a specific industry in a specific country, the problem of generalisability consists of two aspects: 1) the statistical sampling-based generalisability; 2) generalising from case study findings to theory. The statistical sampling-based generalisability is a measure of the quality of one form of level-one inference, which describes the process of generalising from a sample to population characteristics or from experimental subjects to experimental findings (Yin, 2003). Yin also explains that generalising from case study findings to theory is a form of level-two inference, which describes the process of generalising from population characteristics to theory or from experimental findings to theory. This study empirically tested the proposed theory that explains how entry strategies and organisational factors affect the market share achievements of foreign subsidiaries in international markets. In terms of level-one

inference, because we include all the units of the population in our intra-industry statistical analysis, the size of the population rather than the sampling might possibly limit the statistical power of the study. In terms of level-two inference, the problem of generalisability lies in the question whether we can generalise our theory from the specific China's passenger car industry to other industries and other countries – in particular other transition economies. We stress that the results about the specific strategic and organisational factors obtained from the specific industrial context are only suggestive, but the theoretical framework is of more general implication. Nevertheless, the validity of this theoretical framework needs replication and extension of this study. Further analyses might examine different industries in different countries and with different degrees of industrial dynamics. In addition to focusing on at-entry strategic and organisational factors, further studies can also incorporate or control the (static) operational determinants of market share achievement, such as price, cost, advertising and efficiency.

7 Telecom Equipment Industry: FDI, Competition and Innovation

Since the late 1990s, electronics and Information and Communications Technology (ICT) industry has surpassed some traditional industries, such as oil and steel, and become the single largest industry in the world. In China, electronics & ICT industry has become both the single largest industry and the one that has attracted the largest amount of Foreign Direct Investment (FDI) inflows.[1] In this widely defined industrial sector, the interaction among Multinational Corporations (MNCs), domestic firms and government policies shapes the structure of markets and the path of industrial development. With rapid buildup of the domestic production capacity, domestic technological capability and international competitiveness have been established in most segments of the electronics & ICT industry. The developmental dynamics of China's electronics & ICT sector is highlighted by the sequential rise of different segments, which are characterised by different degrees of technology intensity – from low- to high-end products. The analysis of these segments can be considered as a 'multiple-case' case study, the result of which demonstrates the robustness of the positive performance consequences of an open and competition-friendly industrial policy. The effectiveness of industrial policy, which is characterised by providing incentives to firms thus to direct resource allocation to desired economic activities in order to promote industrial development, is generally supported by this 'multiple case' case study. This also presents a replication with which the structural upgrading model initiated in Subsection 4.4.3 can be considered robust and worthy of continued investigation and interpretation. In-depth study of China's telecom equipment industry indicates that the entry of MNCs has increased competition and promoted innovation. The sectoral innovation system that emerged in this industry has integrated government efforts and business activities. The intensified Research and Development (R&D) activities of firms, both foreign and domestic, have been the driving force of the emergence of this system. However, government Science and Technology (S&T) efforts and other relevant policies have also played crucial roles in the evolving process of the system. Using firm level evidence, this chapter illustrates the institutional and organisational characteristics of the innovation system and shows how inward FDI and competition contributes to the emergence of the system of innovation in a dynamic industrial setting in China.

This chapter is organised as follows. Section 7.1 analyses the development of China's electronics & ICT sector during the reform period in general. On the basis of this, the

[1] Here the 'electronics & ICT' industry refers to the 'telecom equipment, computer and other electronic equipment' (formerly 'electronics and telecom equipment') industry in China's standard industrial classification. This industry is a two-digit industry codified 40. This Chapter slightly covers some consumer electronics industries, which are in the scope of 'household electric appliances' industry (code 395) within the 'electric equipment and machinery' industry (code 39).

following sectors investigate in particular the impact of FDI on competition and innovation in China's telecom equipment industry. Section 7.2 explores the dynamic process of market structural change and industrial development in China's telecom equipment sector. By theoretical hypothesis development and by empirically examining the determinants of innovation in China's electronics & ICT sector, Section 7.3 and Section 7.4 contribute to a better understanding of the factors that affect innovation and technological change at the system level in a dynamic context of industrial development. We particularly focus on the firm sector in the innovation system and investigate the relationship between foreign and domestic firms in terms of R&D spillovers, which is a crucial factor determining the domestic innovation capability of developing countries. We find that, in addition to the size and profitability of firms, the FDI intensity of industries influences the innovation expenditure of firms. Internationalisation of firms and concentration of industries do not have significant effects on the innovation propensity of firms. The findings provide the evidence of the positive R&D spillover effects from FDI.

7.1 China's Electronics and ICT Industry: The Industrial Context

The electronics & ICT sector in China has developed dramatically during the reform period, especially since the early 1990s. In 1989, the total sales and profits were RMB¥ 49.2 billion and 5.7 billion respectively and the total exports were US$ 2.8 billion. The total sales increased 27 percent annually from 1989 to 2001 and the annual growth rate of exports was 30 percent. The electronics & ICT sector has become the single largest industry in China in terms of both industrial output and export. In 2003, the total sale further increased to RMB¥ 1,880 billion, the total value-added climbed to RMB¥ 400 billion and total exports increased to US$ 142.1 billion (see Table 7-1 for the development in recent years). The total sale has doubled since 2000 within merely three years. The total sales in 2003, measured in US$, were 227.1 billion, accounting for 18 percent of the world total. In 1996, the total sales were US$ 27.8 billion, 2.6 percent of the world total. In 1999, the electronics & ICT sector of China became the third largest of the world. In 2003, China surpassed Japan to become the second largest producer of electronics & ICT products.[2]

Table 7-1 China's electronics and ICT sector, 2001, 2002 and 2003

Year	*Sales (RMB¥ billion)*		*Profits (RMB¥ billion)*		*Exports (US$ billion)*	
	Total	*FIEs (percent)*	*Total*	*FIEs (percent)*	*Total*	*FIEs (percent)*
2001	1188.5	57.0	56.3	45.0	65.0	79.0
2002	1342.3	67.6	57.6	64.1	92.0	/
2003	1880.0	67.5	70.0	57.9*	142.1	82.7

Source: Ministry of Information Industry (MII).
Note: * The FIE percentage of pre-tax profits.

The electronics & ICT sector has attracted the largest amount of FDI inflows in all Chinese industries. Until the end of 2001, according to the MII, the accumulated amount of FDI inflows in this sector had surpassed US$ 70 billion, which took over 15 percent of that of the country at large. Until the end of 2003, more than 4,000 Foreign Invested

[2] The total sales of China's electronics & ICT sector, measured in US$, were 227.1 billion, almost 20 percent higher than Japan's US$ 227.1 billion.

Enterprises (FIEs) have been established and accounted for 23 percent of all firms in this sector. FIEs have contributed significantly to industrial development and taken account more than half of the total industrial output, sales and value-added.

7.1.1 The Sequential Rise of Various Industries in China' Electronics and ICT Sector

There are a number of sub-sectors with different levels of the complexity and newness of technology within China's electronics & ICT sector. This sector can be categorised into three sub-sectors: consumer products, investment products and components. The relative weights of these three sub-sectors have undergone fundamental shift: in 1980 the proportion was 17:22:61; in 1990 it was 14: 53: 33; in 1998 it was 39: 32: 29; and in 2002 it became 29: 45: 26. The electronics & ICT sector can also be segmented according to the categories of products. A number of industries can be defined within the electronics & ICT sector according to the characteristics of final products. Among all the industries, several important ones include consumer electronics, computer, telecom equipment, semiconductors and software. Each industry can be further divided into segments which includes a broad and representative range of products or even further into a large number of specific segments that are associated with specific products. Several most important products in China's electronics & ICT sector include central office switches, colour television, integrated circuit, mobile telephone, monitor, personal computer, tricolour tube, and so on. Table 7-2 shows the production, sales and exports of these products in 2003. According to the International Telecommunication Union (ITU), China has become the world's largest producer of a large number of electronics & ICT products, such as mobile handset, telephone, colour TV, monitor, central office switches, Digital Versatile Disc (DVD), and so on. According to the National Development and Reform Commission (NDRC), China's production of mobile handset, colour TV, monitor and central office switches in 2003 accounted respectively for 35, 40, 55 and 30 percent of the world total. In 2003, 40 percent of colour TVs, 50 percent of mobile handsets and PCs, 60 percent of monitors produced in China was exported.

Table 7-2 Selected products in China's electronics and ICT sector in 2003

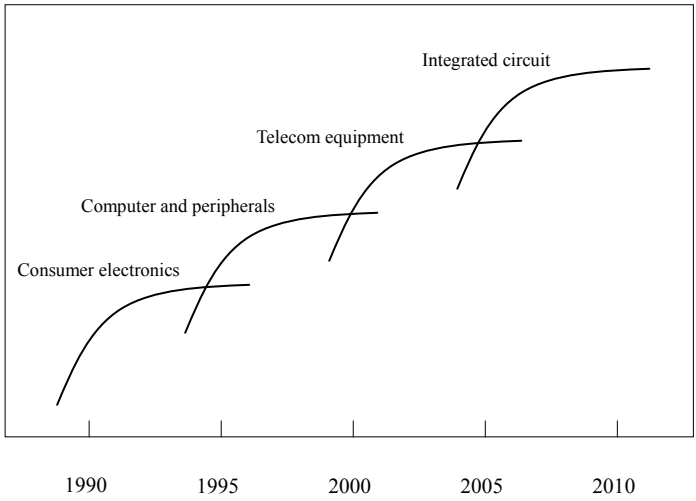
Product	*Unit*	*Production*	*Sales*	*Exports (US$ billion)*
Central office switches	10 thousand lines	5,807	5,387	0.45
Colour television	10 thousand	6,521	6,500	2.56
Integrated circuit	100 million blocks	124.1	122.5	5.97
Mobile telephone	10 thousand	18,644	18,321	7.38
Monitor	10 thousand	7,326	7,373	9.57
Personal computer	10 thousand	3,216	3,083	2.20
Tricolour tube	10 thousand	9,051	8,906	0.75

Source: MII.

The developmental dynamics of China's electronics & ICT sector is highlighted by the sequential rise of different industries (Figure 7-1). The rapid growth of the sector has been initiated by the fast expansion of the consumer electronics industry driven by strong market demand since the mid-1980s. Since the mid-1990s, the rise of personal computers (PCs) and peripherals has reshaped the landscape of China's electronics & ICT sector. Furthermore, the structure of the sector has been dramatically changed as high-technology industries such as telecom equipment taking increasing share of the total production, sales and exports of the sector. As huge production capacity being built up in recent years, China's semiconductor industry is in its early phase of industrial takeoff. The sequential

rise of different industries has followed a similar pattern. In the early phase of industrial development, sales grew explosively and the profit margins were high. In the later phase, the industries unavoidably faced the problems of slow demand growth and fierce price competition. However, new industries constantly emerged, driven by newly created demand either from income-increasing consumers or from rapidly developing downstream industries. Despite the relatively low growth rates, the 'traditional' industries kept growing due in part to the fact that China is still a rapidly growing developing economy. For instance, although China's Personal Computer (PC) industry faces the same problems of slower growth and tougher competition as everywhere else in the world in recent years, it still has great growth potential, as the PC penetration rate in China remains much lower than that in North America, Europe and Japan. In 2003, the proportion of China's computer industry in the total electronics & ICT sector grew from 27.3 to 33.6 percent. In the same year, the industries of computer, components and telecom equipment became the three largest segments of China's electronics & ICT sector, accounting respectively for 33.6, 19.5 and 22.9 percent of the sales of this sector.

Figure 7-1 Sequential rise of industries in China's electronics and ICT sector



Consumer electronics

The consumer electronics industry was the first segment within the electronics & ICT sector to grow up. The segmentation of this industry includes two broad and representative ranges of consumer electronics categories: white goods and brown goods. White goods include refrigerators, air conditioners, washing machines, and other household appliances. Brown goods include home audio and video products such as television, DVD players and home stereo systems, as well as portable audio products. Building on the core advantages of low-cost assembly and the world's fastest-growing market, China's consumer electronics manufacturers rapidly developed and built world-scale export business (Woetzel, 2003). FDI has played an important catalytic role in the development of China's consumer electronics industry. Some International Joint Ventures (IJVs) established in the early 1980s, such as TCL and Konka, have been among the largest firms in the consumer electronics industry. The development of FIEs in this industry has been associated with the rapid growth of domestic enterprises, both State-owned Enterprises (SOEs) and

non-state-owned domestic firms. After 20-some years of rapid development, the market of consumer electronics has now reached a stage where household ownership of white and brown goods is very high. The market is therefore reasonably mature and highly competitive. Fierce price war has become a key feature of the market over recent years, forcing manufacturers to be more efficient in their product design, distribution, marketing and cost of sale. Based on its international competitiveness, China's consumer electronics industry was one of the first to go global (Woetzel, 2003). Domestic firms in this industry have been rooted in a large and open market where their products prove themselves daily against the world's best in quality and price.[3] Although facing obstacles, these firms have capacities and great potentials to be global players.

To grow further, many consumer electronics manufacturers have no choice but to go global. Most firms seeking to expand abroad have pursued a strategy of Original Equipment Manufacturing (OEM), supplying the established global brands and retailers' private labels, but not bearing the costs of R&D and marketing. Galanz, for instance, makes microwave ovens on an OEM basis for almost all of the world's leading consumer electronics companies and dominates over 40 percent of the global market in 2003. Changhong supplied Wal-Mart with televisions sold under an unrelated brand. A number of firms have adopted a branding strategy. Haier, for instance, is selling refrigerators under its own name in the United States. SVA sells its branded plasma televisions in US retail chains. TCL has adopted a Merger and Acquisition (M&A) strategy by purchasing an insolvent German television maker in an attempt to break into the European market. It is also pursing a wide range of branding and channelling strategies that aims at introducing the TCL brand to the European market.

Computer and peripherals

During the reform period, China's computer industry went from being non-existent in the 1980s to becoming the world's fourth largest computer hardware producer in 2000 (see Table 7-3). In 2001, China's computer and peripherals industry realised total sales of RMB 181.5 billion, exporting US$ 25.0 billion. In 2002, the sales of China's computer and peripherals industry increased to RMB 314.6 billion. The production of PCs reached 14.6 million units in 2002 and China surpassed Japan to become the second largest PC producer in the world. In 2003, the production of PCs almost doubled, increasing to 32.2 million units. The computer and peripherals industry accounted for 33.6 percent of the total sales in the electronics & ICT sector, increasing from 27.3 percent in 2002 and becoming the single largest segment in this sector. This accelerated increase was largely driven by strong demand from international markets. A combination of players has contributed to the rapid growth of China's computer industry, including domestic PC makers, MNCs and Taiwanese contract manufacturers. In addition, government policies promoted computer production and use, encouraged firms to enter the computer industry and stimulated foreign investment.

[3] See Gao, Woetzel and Wu, 'Can Chinese brands make it abroad?', *McKinsey Quarterly*, No. 4, 2003.

Table 7-3 Global computer production: percentage of the top five countries

Country	*1985*	*1990*	*1995*	*2000*
United States	49.2	27.0	26.5	26.1
Japan	18.9	29.2	25.2	16.3
Singapore	1.2	3.9	7.3	7.6
China	0	0.4	1.9	6.8
Taiwan	1.0	3.3	5.6	6.5

Source: MII.

1990, China had only 50 thousand PCs in a country with more than 1.2 billion people. By 2003, it has become the world's largest producer of computer hardware and a major market for information technology products. FDI has contributed significantly to the development of this industry (see Table 7-4 for FDI in recent years). In China' computer industry, the contractual value of FDI had reached US$ 4.3 billion and the realised value of FDI had become US$ 2.1 billion until the end of 2002. Totally 898 FIEs have been established in this industry. The realised amount of FDI has been US$ 586 million and US$ 1.51 billion in the computer segment and peripherals segment respectively.[4] Some largest FIEs in the computer industries, such as Hon Hai, Dell (China), Seagate (Wuxi) and Top Victory (Fujian), have become leading producers of computer or peripherals in China. In the computer segment, domestic firms such as Legend, Founder and Tongfang have built up their competence and become China's top manufacturers of PCs. In the peripherals segment, FIEs, particularly Taiwanese firms, has played the leading role on the basis of their global competence in this industry. Over recent years, as leading Taiwanese technology firms began large-scale investment in Mainland China, their contribution to the development of China's computer industry has become increasingly significant. These Taiwanese firms include Hon Hai, Quanta, Asus, BenQ (the new name of Acer Peripherals), and so on. In 2003, Hon Hai, Quanta and Asus became the three largest exporters in China, with exporting products valued US$ 6.42, 5.29 and 3.16 billion respectively. With the help of its cross-strait cousin, China will be able to redraw the landscape of the world's computer and peripherals industry in a couple of years.

Table 7-4 FDI inflows in China's computer industry (US$ million)

Item	*1998*	*1999*	*2000*	*2001*	*2002*
Computer					
Number of establishments	16	26	35	43	51
Contractual amount	46.45	125.43	352.52	393.19	134.80
Realised amount	27.42	43.21	104.05	209.71	201.44
Peripherals					
Number of establishments	63	97	101	193	273
Contractual amount	501.35	361.33	438.88	968.81	979.10
Realised amount	55.88	110.66	301.69	475.46	568.03

Source: Ministry of Foreign Trade and Economic Cooperation (MOFTEC) (2003).

Telecom equipment

Since the early 1980s, China's telecommunications market has expanded at a significantly high growth rate. The number of fixed telephone subscribers has shown an average annual growth rate of 34 percent since 1991. The growth rate of mobile telephony was more than 115 percent for the same period (see Table 7-5). China's telecommunications market is now the world's largest in terms of both network capacity and number of subscribers. This

[4] According to MOFTEC (2003).

market accounts for one fifth of world telephone subscribers. With a monthly increase of over 8 million subscribers, the total number of telephone users in China surpassed half a billion and the penetration rate climbed to 41.2 percent in 2003.

Table 7-5 Growth of fixed and mobile telephone in China, 1991-2003

Year	*Fixed telephone*			*Mobile telephone*		
	Subscribers (thousand)	*Growth (percent)*	*Penetration (percent)**	*Subscribers (thousand)*	*Growth (percent)*	*Penetration (percent)**
1991	8,498	/	0.7	48	/	0.0
1992	11,646	37	1.0	177	269	0.0
1993	17,970	54	1.5	638	260	0.1
1994	28,863	61	2.4	1,568	146	0.1
1995	40,706	41	3.4	3,629	131	0.3
1996	54,947	35	4.5	6,853	89	0.6
1997	70,310	28	5.7	13,233	93	1.1
1998	87,420	24	7.0	23,863	80	1.9
1999	108,716	24	8.6	43,300	81	3.4
2000	144,829	33	11.4	84,530	95	6.7
2001	180,370	25	14.1	145,220	72	11.4
2002	214,420	19	16.7	206,620	42	16.1
2003	263,305	23	20.4	268,690	30	20.8

Source: MII.
Note: * Calculated by the author (population data according to the NBSC).

Behind the impressive growth in the telecommunications market, there has been a rapid infrastructure build-up, which created strong demand for all equipment associated with fixed lines, mobile, data and optical networks. The enormous market opportunities have encouraged most telecom equipment manufacturing MNCs to invest and engage in local production in China. In this internationalised domestic market with highly intensified competition, local companies rose rapidly. This important segment of China's electronics & ICT hosts perhaps the most successful Private-owned Enterprise (POE) in China's industrial sector – Huawei Technologies. Huawei was the only POE in the list of the top 50 industrial enterprises and was among a very limited number of large firms emerged from competitive manufacturing industries rather than the sectors monopolised by large-sized SOEs (see Table 5-14). In addition to Huawei, ZTE and Datang, listed companies transformed from former state-owned research institutes, are also among the important players in China's telecom equipment industry.

Integrated circuit

The rapid development of the industries of computer and telecom equipment has boasted the demand for integrated circuits. In 2003, the size of China's integrated circuit market reached RMB¥ 207.4 billion. Most of the market was still dominated by imports despite the rapid growth of the Chinese semiconductor industry since the late 1990s (Table 7-6). In 2003, the total sales (including exports) of domestic firms in this industry climbed to RMB¥ 35.1 billion, but still far from meeting the increasing demand of China's electronics & ICT industries. As perhaps the highest end of the entire electronics industry, the integrated circuit industry in China still has not built up its international competitiveness as in the downstream electric products, particularly consumer-products.

Table 7-6 Production of China's integrated circuit industry, 1991-2003

Year	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*
Production (billion blocks)	0.12	0.13	0.18	0.20	0.79	1.15	1.68	2.71	4.15	5.88	6.36	9.63	12.41

Source: MII.

To boost domestic production and reduce reliance on imports, the Chinese government is giving the integrated circuit industry strong support by attractive industrial policy measures (see Subsection 7.1.2 for details) and is encouraging FDI in this industry, particularly in Deep Sub-Micron (DSM) integrated circuits. Consequently, a large amount of FDI has been attracted into China's integrated circuit industry despite major political constraints such as Taiwan's reluctant to permit its chipmakers to invest in Mainland China and the US laws that restrict high-technology export to China. Taiwanese investors led this process. First-movers have been the new startups established by previous employees in Taiwanese chip manufacturers.[5] Later on, Taiwan Semiconductor Manufacturing Corporation and United Semiconductor Manufacturing Corporation, Taiwan's two giant contract chip manufacturers which have already controlled half of the world's contract chip manufacturing, followed to invest in Suzhou and Shanghai respectively.[6] Table 7-7 lists the important FIEs established after 2000, mainly by Taiwanese investors. China's development towards a chip-making centre has accelerated as a large amount of FDI flowed in. Since 2000, totally US$ 13.9 billion has flushed in the integrated circuit industry, three time as the totally investment s in previous 30 years. The market demand for integrated circuits has kept soaring, driven by the rapid growth of the downstream industries of computers and telecom equipment. Meanwhile, China's journey up the value chain is accelerating. China's semiconductor industry has made significant technological leads in recent years. In early 2003, Shanghai-based Semiconductor Manufacturing International Corporation (SMIC) became the first Chinese firm to make 0.18-micron chips. Now the gap between the Chinese chip manufacturers and the leading foundries in Taiwan is future narrowing as SMIC began to make 0.13-micron chips.

Table 7-7 Important FIEs (FDI projects) in China's integrated circuit industry

Company	*Current technology (μm)*	*Investment (US$ billion)*
Semiconductor Manufacturing International (Shanghai) Corporation	0.13	1.48
Motorola (China) Electronics Co., Ltd.	0.25	1.00
Semiconductor Manufacturing International (Beijing) Corporation	0.13	1.25
Grace Semiconductor Manufacturing Corporation	0.18	1.64
He Jian Technology Corporation	0.18	1.50
Taiwan Semiconductor Manufacturing (Shanghai) Corporation	0.25	0.90

Source: MOFTEC (2003).

[5] Both Semiconductor Manufacturing International Corporation and Grace Semiconductor Manufacturing Corporation started up in Shanghai in 2000. The former was established by Richard Ru Gin Chang, the former President of Worldwide Semiconductor Manufacturing Corporation, a Taiwanese chip manufacturer acquired by Taiwan Semiconductor Manufacturing Corporation in 1999. It has been invested by a group of Chinese and foreign investors. The latter was established by Wenyang Wang, a Taiwanese investor, with strong support from Mainland China. The management team was mainly from another Taiwanese chip manufacturer acquired by Taiwan Semiconductor Manufacturing Corporation (see Table 7-7)

[6] He Jian Technology Corporation, located in Suzhou, was established implicitly via a Virgin Island firm by United Semiconductor Manufacturing Corporation in 2002. One year later, Taiwan Semiconductor Manufacturing Corporation began investment in Shanghai and will begin production in 2004 (see Table 7-7).

7.1.2 FDI, Industrial Policy and the Development of China's Electronics and ICT Sector

Electronics and ICT sector has been the sector in which FDI played the most significant role in industrial development in Chinese industries (see Table 5-5 and Table 5-7). In 2003, according to the MII, FIEs accounted for more than half of the total sales, pre-tax profits and value-added, with the share of 67.5, 57.9 and 52.0 percent respectively. The contribution of FIEs to exports was even more significant – 82.7 percent of total exports were from FIEs. The significant contribution of FIEs has highlighted the crucial contribution of FDI to the rapid development of Chinese industries. In addition to these direct contributions, FDI also led to the rapid technological catch-up and innovative diffusion. As MNCs were establishing R&D centres in China, leading domestic firms, which compete head to head with MNCs, built up their core competence on the basis of intensive in-house R&D. Domestic firms started off using foreign technology and then tried to develop their own technology and products. Haier, the largest domestic firm in China's electronics & ICT sector, spent 6 percent of its total sales in R&D, relatively high for a white-goods maker. In the telecom equipment industry, the most dynamic segment with high-technology characteristics, domestic firms such as Huawei, ZTE and Datang have become the most R&D intensive companies not only in the electronics & ICT sector but also in the Chinese economy at large.

Government policies have played crucial roles in the process of industrial development. Like Japan and East Asian Newly Industrialised Economies (NIEs), China has actively used industrial policy to promote the development of particular sectors and industries, among which the electronics & ICT sector is a priority. Starting with Japan in the 1960s and 1970s and continuing with South Korea, Taiwan and Singapore afterwards, the Asia-Pacific region became the leading global producer of electronics and IT products. Behind the success were government policies, which commonly involved a combination of export orientation to achieve international competitiveness and strong efforts to develop national capabilities (Dedrick and Kraemer, 1998). In developing its electronics and IT sector, China is on a path previously trodden by Japan and the East Asian NIEs – from the bottom of the barrel to the mainstream, maybe to the cutting edge. China's strategy has included similar elements – from the promotion of exports to heavy investment in information infrastructure.

The evolution of China's industrial policy for the electronics & ICT industry reflected both the changing system of industrial management in this sector and the shifting priority of policy objectives. In the era of planned economy, the electronics industry was under the direct management of the Fourth Ministry of Machinery Industry. The production of this industry was mainly military-products oriented.[7] In 1981, the Fourth Ministry of Machinery Industry was renamed the Ministry of Electronic Industry (MEI). The production of electronics industry began to transform from military- to civil-products oriented.[8] Consistent to the overall trend of China's industrial policy focusing on eliminating shortage in consumer products (see Subsection 1.4.2), the priority of the industrial policy for the electronics industry in the 1980s was to alter the industrial

[7] In the late 1970s, the production of civil products accounted for 78 percent of total electronic products. For the firms directly affiliated to the Fourth Ministry of Machinery Industry, the civil production only accounted for 27 percent.

[8] The share of civil production has increased to above 97 percent of total electronic products.

structure dominated by military products and to raise the production of consumer goods to meet market demand. Based on the experience in the 'Sixth Five-Year Plan', the development of consumer electronics was identified as the priority for the 'Seventh Five-Year Plan' in 1986. As a result of these early efforts, the percentage of the consumer products in the total electronics production increased from 22 percent in 1980 to 53 percent in 1990.

In 1986, the State Council decided that priority should be given to four categories of high-technology products: 1) integrated circuses, 2) computer, 3) software, and 4) central office switches. A series of supportive government polices were implemented for the production of these four products in the 'Seventh Five-Year Plan'. In addition, RMB¥ 100 million was put annually into a special fund for industrial development – the Development Fund of the Electronic and Information Industry. 235 entities benefited from these policies and totally RMB¥ 800 million was granted prior to the 1990s. Within these beneficiaries grew out the leading computer makers such as Legend, Great Wall and Langchao. From 1986 to 2001, totally RMB¥ 2.46 billion was granted to domestic firms for specified projects from this fund. In addition to this fund, which is specific for the ICT sector and is managed by the MII, other similar subsidy programs and funds cover more industries, among which ICT has been one of the most important targets (see Table 5-10).

Since the early 1990s, the development of electronics & ICT sector has increasingly been established as a national strategy, which was explicitly documented in the important 'five-year plans' with detailed targets and measures. The national industrial policy and development strategy gave particular and detailed attention to the development of the electronics & ICT sector and some specific segments or products of this sector. In the 1989 'Decision on the Gist of Current Industrial Policy' issued by the State Council, electronics industry was identified as the focal point of industrial policy. The 'Eighth Five-Year Plan' (1991-1995) gave priority to the development of the electronics & ICT industry. The 'Ninth Five-Year Plan' (1996-2000) further stressed the development of this sector and specifically emphasised the support towards integrated circuit, new-type components, computer and telecom equipment. The 'Tenth Five-Year Plan' (2001-2005) stressed the breakthrough and leap-forward in high-speed broadband information network and DSM integrated circuit as well as the commercialisation of digital electronic products, new-type monitors, and fabric electronic materials and devices. On the basis of the 'Outline of the Tenth Five-Year Plan', the 'Outline of the Tenth Five-Year Plan for Information Industry' formulated by the MII provided detailed strategy to develop the industries of integrated circuit, new-type components & devices, telecom equipment, computer & network products, digital video & audio products, special electronic instruments, and so on. The Ministry of Science and Technology (MOST) has included integrated circuit, telecommunications and computer in the important projects of the 'National S&T Breakthrough Plan' for 'Tenth Five-Year Plan'.

As indicated by the 'five-year plans' and more detailed guidelines, the industrial policy for the electronics & ICT sector revised constantly as the product structure of the industry upgraded. Government support was directed at first consumer electronics, then computer and telecommunications, later on software and integrated circuit. Meanwhile, a national strategy of 'promoting industrialisation by informatisation' has been adopted since the mid-1990s. Computing and telecommunications has been strongly encouraged by the government. A series of central government-directed 'Golden Projects' have been implemented to promote the usage of computer in different sectors of the economy. The increase in computer sales between 1995 and the late 1990s was largely credited to these government initiatives. The government also gave priority to the development of the

telecommunications market. To realise this objective, the Chinese government implemented a deregulation program and gradually introduced competition in the previously monopolistic telecommunications.

With regard to trade policy, the Chinese government has adopted generally a stance of free trade for the electronics & ICT sector, which has become one of the most open markets in China's manufacturing sector. Since the 1990s, China has rapidly decreased its tariff rates to facilitate its re-entry to General Agreement on Tariffs and Trade (GATT) (later World Trade Organisation, WTO) (see Table 2-5). Electric product has been among the commodity categories that have experienced the sharpest tariff reduction. In 1997, the tariff of PC and most peripherals decreased from 20 to 15 percent (some of them to 12 or 9 percent). According to China's commitments under WTO, the tariff of electronics & ICT products further reduced after the WTO accession. In 2003, the tariff rate decreased from 12.5 to 3.5 percent and the number of products with zero tariff rate has increased to 203, accounting for four fifth of all electronics & ICT products (see Table 7-8). Increasing openness to international trade exerted competitive pressures on domestic firms and also urged the government to reform the domestic institutions that undermine the ability of firms to respond to competitive pressures from abroad (see Subsection 2.2.3).

Table 7-8 Tariff rate of electronics & ICT products after China's WTO entry

Item	*2002*	*2003*	*2004*	*2005*
Average tariff rate (percent)	12.47	3.50	1.50	0
Number of products with zero tariff rate*	123	203	232	256

Source: MOFTEC (MOC).

Note: * Totally 256 categories of IT products are included in the 'Information Technology Agreement' of WTO.

The development of China's integrated circuit industry has become the top priority of the MII in recent years. With only one out of five chips sold in China made locally, the priority is to meet domestic needs by promoting local production. To develop the domestic industry, the Chinese government is giving the integrated circuit industry strong support. This industry has been identified as a key industry to develop in the 'Tenth Five Year Plan' and both the MII and the MOST have crafted detailed plan for the promotion of the development of the industry. In June 2000, the State Council promulgated the influential 'Several Policies to Encourage the Development of the Industries of Software and Integrated Circuit' (File NO. 18). To promote the development of the domestic production of DSM integrated circuits, this important policy file has provided an array of preferential policy measures concerning tax, equipment import, foreign currency, and so on. Afterwards, the MII promulgated detailed guidance for the implementation of this policy. In 2002, the MOF and the SAT promulgated the 'Notification on the Tax Policies to Further Encourage the Development of the Industries of Software and Integrated Circuit', further increasing the scope and degree of preferential VAT treatment for the integrated circuit industry. The supportive policy has provided strong incentives for investment in China's chip manufacturing industry and led to a surge of FDI inflows in this sector (see Table 7-9).

Table 7-9 FDI inflows in China's integrated circuit industry, 1998-2002

Item	*1998*	*1999*	*2000*	*2001*	*2002*
Number of projects	18	16	29	94	136
Contractual amount (US$ million)	141.1	38.6	965.2	892.9	1,805.1
Realised amount (US$ million)	36.3	79.1	91.1	336.3	824.4

Source: MOC.

The recent start off of China' chip manufacturing industry has led to the worry that the global semiconductor industry's most production capacity needed to make the latest types of microprocessors, including memory chips and processors for PCs and other products, is rapidly moving to China. There has also been concern that too much new capacity is being built by the East Asian economies such as South Korea and China, suggesting that chips are set for another round of price wars, hurting the profitability of the entire industry.[9] Due to the worry that the rapid growth of local production will substitute an increasingly large proportion of imports, most of which has been from the United States, the tax policy pursued by the Chinese government was complained by the United States within the WTO. It was argued that Chinas' preferential VAT treatment for the integrated circuit industry put the US semiconductor exporters in an unfair competitive position, thus breaking the WTO rules. The disagreement between China and the United States reminds us the semiconductor trade conflicts between the United States and Japan in the 1980s.

International conflicts associate with the rise of China's electronics & ICT sector also raised when China attempted to set industrial standards for the next generations of electronics products. In consumer electronics, Enhanced Versatile Disc (EVD) has been China's first home grown standard for the video industry, development as a successor to the DVD. As a voluntary standard, EVD has been developed by a 13-member consortium led by Shinco, China's leading DVD maker. The State Economic and Trade Commission granted RMB¥ 10 million for the development of EVD. Although EVD players have been rolled out on across China since December 2003, achieving dominance in China, let alone internationally, will be difficult for the new format.[10] In mobile telecommunications, Datang has successfully developed TD-SCDMA, one of the three 3G standards approved by the ITU. The most controversial industrial standard has been the WAPI (Wireless LAN Authentication and Privacy Infrastructure), China's proposed proprietary national standard for Wireless LAN, by which the Chinese government forces foreign companies that want to sell certain kinds of wireless devices in China to use Chinese encryption software due to national-security concerns. By establishing their own industrial standards, Chinese electronics companies can avoid paying hefty royalties to foreign patent-holders. By doing so China could exceed its role as a manufacturing powerhouse and become more competitive in the world's electronics & ICT industry. However, these efforts have faced both commercial and political hurdles as MNCs and foreign governments challenged the standards developed by Chinese firms or government. In April 2004, the planned implementation of the WAPI was postponed indefinitely by the Chinese government due to the US pressure from the United States.[11]

7.1.3 Global Competition in Domestic Markets: The Largest Players

The industries of electronics & ICT, defence, steel, automotive and petroleum are the main

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[9] See Christopher Whalen, 'The Nation: High Technology Chip Production Moving to China', Far East Economic Review, December 31, 2002.

[10] See Anthony Kuhn, 'China spins a new disc', Far East Economic Review, February 26, 2004.

[11] WAPI has been accused because details of the standard have only been shared with a number of Chinese equipment makers, leaving foreign firms the option of either licensing the technology though agreements with Chinese suppliers, or staying out of the Chinese market. After intense lobby pressure from the US government on behalf of WLAN chipmakers, most notably Intel, the Chinese and US Government have reached an agreement in April 2004 regarding WAPI and WiFi technologies in China. China agreed to suspend the implementation of the WAPI standard.

sectors that host China's largest industrial firms (see Subsection 5.2.2). Among the top 50 enterprises listed in Table 5-14, there are one Private-owned Enterprise (POE), three FIEs and three firms with mixed ownership characteristic. All others are state-owned. The only POE and the three firms with mixed ownership characteristic are from the electronics & ICT sector: Huawei Technologies is a telecom equipment vendor; Lenovo Group (previously Legend Group) is a computer maker; Haier Group and TCL Holdings are mainly producing consumer electronic products. Two out of the three FIEs in Table 5-14 are also from the electronics & ICT sector; they are Philips (China) and Motorola (China). Most enterprises listed in Table 5-14 are large monopolistic SOEs and only these firms have been grown up in a competitive business environment.

Due to the low impediments to both imports and market entry, most segments in China's electronics & ICT industry have followed an 'open competitive' model of industrial development principally shaped by the relevant industrial policy measures. China's domestic markets of electronic products has become the arena on which part of the global competition took place – the leading FIEs compete fiercely with each other and also with rapidly rising domestic players. Prior to the early 1990s, the FIEs were mainly IJVs between SOEs and investors from Japan and the East Asian NIEs. In the second phase of China' economic transition, large MNCs from Western countries began entered China's electronics & ICT industry with large scale. Table 7-10 indicates that the largest FIEs in this sector were mainly invested by firms from Japan and the East Asian NIEs before the mid-1990s. Afterwards, most of them lost their positions to leading US and European MNCs.[12] More recently, Taiwanese manufacturers of computer peripherals entered the list of top FIEs in China's electronics & ICT industry, as they decisively moved their production capacities to Mainland China. It can be predicted that the semiconductor manufacturers established by Taiwanese investors in recent years will enter the list of top FIEs as they realised their full production capacity.

[12] As the data in Table 5-16, the data in Table 7-10 is according to 'largest 500 foreign-invested enterprises' list compiled by the MOFTEC. Two categories of companies in the MOFTEC list are not included. The first category is the listed companies in China's B-share market and some international stock market. For instance, Digital China Holdings Limited, a Hong Kong-listed spin off from Legend Group, realised revenue of RMB¥ 10.075 billion in 2002. But it is not included in Table 7-10. The second category is the mobile telecommunications companies.

Table 7-10 Top 10 FIEs in the electronics and ICT sector, selected years

Year	*Rank*	*Company*	*Revenue (RMB¥ million)*	*Industry*
2002	1	Motorola (China) Electronics Ltd.	45,333	Telecom equipment
	2	Hon Hai Precision Industry (Shenzhen) Co., Ltd.	38,610	Computer
	3	Beijing Nokia Mobile Telecommunications Co., Ltd.	17,720	Telecom equipment
	4	Dell Computer (China) Co., Ltd.	17,572	Computer
	5	Nokia (China) Investment Co., Ltd.	13,550	Telecom equipment
	6	Seagate International Technology (Wuxi) Co., Ltd.	10,850	Computer
	7	Siemens Shanghai Mobile Communications Ltd.	10,719	Telecom equipment
	8	Dongguan Nokia Mobile Phones Co., Ltd.	10,295	Telecom equipment
	9	Top Victory Electronics (Fujian) Co., Ltd.	10,251	Computer
	10	MiTAC Shunde Ltd.	9,229	Computer
2000	1	Motorola (China) Electronics Ltd.	31,289	Telecom equipment
	2	Beijing Nokia Mobile Telecommunications Co., Ltd.	15,867	Telecom equipment
	3	Nanjing Ericsson Communication Co., Ltd.	9,873	Telecom equipment
	4	Konka Group Co., Ltd.	9,017	Consumer electronics
	5	Top Victory Electronics (Fujian) Co., Ltd.	7,791	Computer
	6	Siemens Shanghai Mobile Communications Ltd.	7,717	Telecom equipment
	7	Great Wall International Information Products (Shenzhen) Co., Ltd.	7,224	Computer
	8	TCL Electric Appliances (Hui Zhou) Co., Ltd.	6,860	Consumer electronics
	9	Dongguan Nokia Mobile Phones Co., Ltd.	6,829	Telecom equipment
	10	Shanghai Bell Co., Ltd.	6,497	Telecom equipment
1995	1	Motorola (China) Electronics Ltd.	7,364	Telecom equipment
	2	Shanghai Bell Co., Ltd.	4,545	Telecom equipment
	3	Konka Group Co., Ltd.	3,610	Consumer electronics
	4	Beijing Matsushita Colour CRT Co., Ltd.	2,673	Consumer electronics
	5	Tianjin Mitsumi Electric Co., Ltd.	2,521	Consumer electronics
	6	Epson Engineering (Shenzhen) Ltd.	2,500	Consumer electronics
	7	Huaqiang Sanyo Electric Co., Ltd.	2,360	Consumer electronics
	8	Sanyo Electric (Shekou) Co., Ltd.	2,040	Consumer electronics
	9	Qingdao Mitsumi Electric Co., Ltd.	2,014	Consumer electronics
	10	Shanghai Novel Colour Picture Tube Co., Ltd.	1,894	Consumer electronics
1991	1	Beijing Matsushita Colour CRT Co., Ltd.	1,135	Consumer electronics
	2	Konka Group Co., Ltd.	1,086	Consumer electronics
	3	Huaqiang Sanyo Electric Co., Ltd.	900	Consumer electronics
	4	Fujian Hitachi Television Co., Ltd.	740	Consumer electronics
	5	Shenzhen Sanyo Electric Co., Ltd.	718	Consumer electronics
	6	Shanghai Novel Colour Picture Tube Co., Ltd.	700	Consumer electronics
	7	Shanghai Bell Co., Ltd.	634	Telecom equipment
	8	Huafei Colourful Revealing System Corporation Ltd.	582	Consumer electronics
	9	Xiamen Huaqiao Electronic Co., Ltd.	531	Consumer electronics
	10	Shenzhen Huafa Electronics Co., Ltd.	401	Consumer electronics

Source: MOFTEC.

Note: There is duplication between this table and Table 7-11, because some FIEs were also included in the 'Top 100 Electric Firms' Statistics of the MII.

The changing industrial composition of FIE presence in China's electronics & ICT sector clearly reflects the sequential rise of different industries (see Subsection 7.1.1). Manufacturers in the consumer electronics industry were the largest firms in this sector prior to the early 1990s. Most of them are companies making colour TVs or tricolour tubes. After the mid-1990s, they gradually lost their positions to the newly entered FIEs producing computers and base stations. In 2000, six out of the ten largest FIEs in China's electronics & ICT industry were from the segment of telecom equipment, while two were from the computer segment and the other two from consumer electronics (see Table 7-10). Two years later, in 2003, all the ten largest FIEs were manufacturers of computer

peripherals and telecom equipment. In the top ten FIE list there were five telecom equipment vendors: Motorola (China), Siemens Shanghai and three China affiliates of Nokia. The other five computer makers were Hon Hai, Dell (China), Seagate (Wuxi), Top Victory (Fujian) and MiTAC (Shunde). As the newly established production bases of Hon Hai, Quanta and Asus in Mainland China began production in recent years, these Taiwanese firms will ascend rapidly in the largest FIE list.

The entry of MNCs did crowd out some domestic firms in a number of electronics & ICT industries in certain period of time, particularly the early years of foreign entry. However, many domestic firms survived the fierce competition from the most prestigious competitors and rapidly grew up. Some domestic firms can be considered as 'crowded in' by the entry of MNCs as certain degree of linkage and spillover effects contributed significantly to their growth. The rise of domestic industrial giants in China's electronics & ICT industry can be the lists of the 'Top 100 Electronic Firms' compiled by the MII (previously the MEI) since the mid-1990s. On the basis of these rankings, Table 7-11 lists the top ten largest domestic enterprises in China electronics & ICT industry in 1986, 1990, 1995, 2000 and 2003. Compared with Table 7-11, it can be seen that large FIEs and domestic firms dominate different segments of China's electronics & ICT industry. In the four segments discussed in Subsection 7.1.1, the consumer electronics industry has already been dominated by the leading domestic firms, such as Haier Group, TCL Holdings and SVA Group. To some extent, the rise of domestic companies 'crowded out' FIEs, which dominated the market prior to the early 1990s. In every key segment of consumer electronics, such as colour TV, refrigerator and air conditioner, domestic firms grew rapid and won the competition with FIEs.

Few Chinese manufacturing companies are known outside their domestic markets, because most would rather supply goods to the world's biggest brands rather than compete with them in global markets. But leading domestic electronic firms such as Haier Group, which makes refrigerators, washing machines, air conditioners, and totally 96 categories of products, began to sell its products to the rest of the world. Haier was established in 1984 as a small urban COE, producing refrigerators. After two decades of rapid expansion, Haier has realised global revenue of RMB¥ 80.6 billion in 2003 and has exported its products to 160 countries and territories. Haier has emerged as an MNC as it actively engaged in international expansion. It has 22 overseas factories and production bases and has become the world's fifth largest producer of white goods. 'Haier' has become the most valuable brand in China and the second most important brand of white goods in the world.[13] In 2003, Haier has been assigned to lead the formulation of four national industrial standards.

[13] According to *Euromonitor*.

Table 7-11 Top 10 domestic firms in the electronics and ICT sector, selected years

Year	*Rank*	*Company*	*Revenue (RMB¥ million)*	*Industry*
2003	1	Haier Group Company	80,648	Consumer electronics
	2	Lenovo Group (Legend Group)	40,331	Computer
	3	TCL Holdings Co., Ltd.	38,204	Consumer electronics
	4	SVA Group	30,686	Consumer electronics
	5	Panda Electronics Group Co., Ltd.	26,327	Consumer electronics
	6	Hisense Company Ltd.	22,113	Consumer electronics
	7	Huawei Technologies Co., Ltd.	21,670	Telecom equipment
	8	Beijing Founder Group	18,120	Computer
	9	Guangdong Midea Holding Co., Ltd.	17,500	Consumer electronics
	10	ZTE Corporation	17,457	Telecom equipment
2000	1	China Putian Corporation	46,500	Diversified holding firm
	2	Haier Group Company	40,628	Consumer electronics
	3	Legend Group	28,441	Computer
	4	SVA Group	23,007	Consumer electronics
	5	TCL Holdings Co., Ltd.	17,754	Consumer electronics
	6	Panda Electronics Group Co., Ltd.	16,839	Consumer electronics
	7	China Greatwall Computer Group	16,228	Consumer electronics
	8	Huawei Technologies Co., Ltd.	15,200	Telecom equipment
	9	Hisense Company Ltd.	13,473	Consumer electronics
	10	Sichuan Changhong Electric Co., Ltd.	12,990	Consumer electronics
1995	1	Sichuan Changhong Electric Co., Ltd.	6,934	Consumer electronics
	2	Legend Group	6,708	Computer
	3	SVA Group	6,527	Consumer electronics
	4	IRICO Electronics Group Corporation	6,000	Consumer electronics
	5	Stone Group	5,295	Computer
	6	Panda Electronics Group Co., Ltd.	4,583	Consumer electronics
	7	Shanghai Bell	4,545	Telecom equipment
	8	Shenzhen Huaqiang Holding Limited	4,201	Consumer electronics
	9	Konka Group Co., Ltd.	3,561	Consumer electronics
	10	Shenzhen Seg Group Co., Ltd.	3,199	Consumer electronics
1990	1	Shanghai No. 1 Television Factory	1,161	Consumer electronics
	2	Changhong Machinery Factory	1,151	Consumer electronics
	3	Shanxi Tricolour tube Factory	960	Consumer electronics
	4	Nanjing Radio Factory	952	Consumer electronics
	5	Tianjin Telecom and Broadcasting Co., Ltd.	918	Telecom equipment
	6	Shenzhen Konka Electronics Co., Ltd.	842	Consumer electronics
	7	Shenzhen Huaqiang Electronics Co., Ltd.	810	Consumer electronics
	8	Xiamen Huaqiao Electronics Co., Ltd.	805	Consumer electronics
	9	Huanghe Machinery Manufacturing Factory	757	Consumer electronics
	10	Shanghai No. 4 Radio Factory	741	Consumer electronics
1986	1	Shanghai No. 1 Television Factory	576	Consumer electronics
	2	Shanghai No. 4 Radio Factory	455	Consumer electronics
	3	Shanghai No. 18 Radio Factory	449	Consumer electronics
	4	Nanjing Radio Factory	404	Consumer electronics
	5	Beijing Television Factory	359	Consumer electronics
	6	Shanxi Tricolour tube Factory	346	Consumer electronics
	7	Tianjin Telecom and Broadcasting Co., Ltd.	340	Telecom equipment
	8	Shanghai Broadcasting Equipment Factory	286	Consumer electronics
	9	Huangzhou Television Factory	277	Consumer electronics
	10	Changhong Machinery Factory	275	Consumer electronics

Source: MII.

In addition to consumer electronics, newly emergent domestic industrial giants producing computers and base stations rapidly developed and entered the list of top electronic firms since the mid-1990s. Although the computer peripherals market has been

dominated by the FIEs invested by the Taiwanese industrial leaders that also dominate the global market, the domestic PC market has been largely controlled by domestic firms rather than the leading MNCs, such as Dell and Hewlett-Packard. In China's computer industry, the high-end server market is still dominated by MNCs such as IBM and Hewlett-Packard, although domestic players such as Legend and Langchao have captured more market share. In the low-end PC market, domestic firms, such as Legend, Founder and Tongfang, have become the three largest players after their rapid rise since the mid-1990s (see Table 7-12). As now the industrial leader, Legend was established in 1984 as a dealer for foreign products in China. During the 1990s, it switched strategy, built up its own brand and waged price wars that pushed foreign firms out of China's PC market. In 2003, Legend has launched Lenovo as a global corporate brand to position itself for overseas expansion.

Table 7-12 Market shares of PC manufacturers in China, 1996-2003

Company	*1996*	*1999*	*2000*	*2001*	*2002*	*2003*
Legend	9.2	19.4	27.5	26.9	26.5	27.0
Founder	0	5.6	5.3	8.8	8.4	10.0
Tongfang	0	0	0	8.1	6.4	8.0
Dell	1.6	1.6	3.2	4.4	6.0	7.0
IBM	10.2	6.7	5.6	4.7	5.5	5.0
Hewlett-Packard	8.4	5.7	4.6	3.1	3.9	3.0
Acer	3.0	1.8	3.1	2.9	3.4	2.0
Great Wall	3.3	5.0	5.6	4.2	3.3	1.0
Start	0	3.7	3.7	4.8	3.0	1.0
TCL	0	0	0	4.6	2.5	3.0
Compaq	10.1	4.8	3.4	1.2	0	1.0

Source: Buckman *et al.* (2003), McKinsey Global Institute (2003) and iSuppli.

7.2 FDI and Competition in the Telecom Equipment Industry

After almost 20 years of rapid development, China has recently emerged as one of the most important telecom equipment markets in the world. The size of this market is approximately the same as that of Japan.[14] China's telecom equipment industry has high level of productivity. In 2002, the labour productivity of this industry was RMB¥ 217,800 per person, in contrast to RMB¥ 59,800 of China's industrial sector at large. The telecom equipment industry also has high level of international competitiveness. The trade competition indexes of the two main categories of telecom equipment were 0.118 and 0.356 respectively, demonstrating high international competitiveness (Mu and Wu, 2004, in Chinese).[15] Industrial development has been driven by rapidly growing domestic demand and fast upgrading technology. With over US$ 155 billion in fixed and mobile capital investment made over the last five years, China has become the world's largest telecom infrastructure market. In the early years, MNCs invested and engaged in local production in China mainly aimed at supplying the local market. In recent years, however, MNCs increasingly see their China operations as a key for their business success not only in China, but also globally. The industry is increasingly integrated into international

[14] In 2002, the sizes of the Chinese and Japanese telecom equipment markets were RMB¥ 292.57 billion and US$ 36.34 billion respectively.

[15] See Subsection 4.4.3 for a discussion of the trade competition index.

production systems and China has become the crux of the world's technology manufacturing supply chain. To what extent does the entry of MNCs influence market competition, technological progress and industrial development in China's telecom equipment sector? After an overall assessment of China's electronics & ICT sector in general, this section seeks to trace the impact of FDI on competition and innovation in the telecom equipment industry in particular.

This section identifies the determinants of market structural change in China's telecom equipment market and investigates how and to what extent competition is determined by the interaction between business activity and government policy. The multi-phase model developed in Subsection 4.4.3 can soundly describe the dynamic process of market structural change in China's telecom equipment industry. Based on this theoretical framework, we examine the FDI effect on market structure longitudinally in different segments of the industry. We find that the interaction between foreign and domestic firms and government policy shapes the structure of the market. We also find that, in a competitive market, entry of MNCs increases the degree of market competition and promotes firm innovation. Based on the intensified R&D activities of firms competing for domestic and global market share, a new sectoral system of innovation emerged in China's telecom equipment industry. However, government S&T efforts and relevant policies are crucial to the development of this system.

7.2.1 FDI Inflows in China's Telecom Equipment Industry

The analysis of market structure is central to the assessment of competition (see Subsection 4.2.1 for a detailed discussion). Although research into the relationship between FDI and market structure abounds, gaps remain. First, there have been no studies that consider the dynamic process of market structural change with regard to competition between foreign and domestic firms. Second, most studies consider the FDI impact on domestic market concentration, but neglect the changing pattern of international trade, which is intrinsic to domestic market structure. Third, although the market structure impact of inward FDI and MNC presence has been studied, the relation between business practices and government policies has not been clarified in a logic framework. China's telecom equipment industry in the reform era provides an appropriate case to study thus to fill these gaps. In a relatively short time, this industry developed significantly. This growth took place against a background of fast economic growth and extremely rapid telecommunications development. As a market was created by increasing demand and by updating technology, MNCs entered and domestic firms grew up. Competition between FIEs and domestic firms represents the basic determinant of market structure. However, in the environment of transition economy, government policy shapes the overall business environment in which MNCs and their domestic competitors operate, thus playing an important role in the process of industrial development. The rapid development of China's telecom equipment sector is balanced between government efforts to bring in the best technology from outside world while fostering the growth of domestic manufacturers.

Unlike the 'close-door' policy pursued in the telecommunications service, China's policy for telecom equipment manufacturing is consistent with its proactive FDI policy. The telecom equipment industry is one of the industries in which inward FDI is highly encouraged by the government. The huge market for telecom equipment has stimulated most MNCs to invest in China through IJVs or Wholly Foreign-Owned Enterprises (WFOEs) since the mid-1980s. The first FIE in this industry is Shanghai Bell, set up in 1984 when China was experiencing severe shortages of telephone exchange equipment.

Shanghai Bell is an IJV between the Chinese and Belgian partners.[16] Many other IJVs have been established to produce a wide range of telecom systems and components. Entry obviously has to be via IJVs due to policy restrictions. In later years, WFOE became another important entry mode of MNCs. M&A only became an available entry mode choice in some specific cases (such as Alcatel's acquisition of Shanghai Bell) very recently.

Since the late 1980s, the Chinese government has adopted a 'selective promoting' strategy to attract preferred FDI projects while limiting the number of IJVs in the telecom equipment industry, thus falling into line with the change in the country's general FDI policy. The 'Provisions on Guiding the Orientation of Foreign Investment' and the attached catalogue of industrial guidance for inward FDI provide a list of encouraged, permitted, restricted and prohibited FDI projects (see Subsection 5.1.3 for a detailed discussion). For example, in the 1995 version of the guideline, digital cellular, SDH, ATM switching systems, satellite communications systems and digital microwave systems are all on the list of desirable technologies.

Prior to the late 1990s, virtually all important telecom equipment manufacturing MNCs had invested in China. However, most of them aimed to sell their products directly to the Chinese market and mainly engaged in Complete Knock Down (CKD) or Semi Knock Down (SKD) assembly. The scale of investment and production was relative small and total investment was approximately US$ 2 billion. Government policy played an important role in attracting FDI. After 1999, with newly implemented government policy to encourage R&D, technology transfer, product localisation and export, the pace of foreign investment accelerated. From 1999 to 2001, almost US$ 10 billion flushed into China's telecom equipment sector. MNCs greatly increased their presence in China. Many of them moved production bases into China and set up local R&D centres. In 2002, the asset percentage of FIEs in this industry was 50.2 percent and their contribution to the total value-added and exports was 65.2 and 93.5 percent respectively.[17]

The telecom equipment industry hosts the largest FIEs in China's electronics & ICT sector (see Subsection 7.1.3). In 2002, Motorola (China) realised revenue of RMB¥ 45.3 billion to become the largest FIE in China. If the revenues of different China affiliates being summed up, Nokia's turnover in China was also above RMB¥ 40 billion, making it among the largest foreign investors in China. As MNCs became the largest players in the Chinese market, this market became the first or second most important market and profit source for many MNCs and the strategic importance of the Chinese market increased significantly.

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[16] The Chinese investor was the Post and Telecommunication Equipment Company, which was affiliated with the Ministry of Post and Telecommunication. The foreign investors were Bell Belgium and Belgian government, which took 31.65 and 8.35 percent of equity respectively. In 1995, Shanghai Bell became the second largest FIE in China's electronics & ICT industry, only behind Motorola (China). In 2001, Shanghai Bell was acquired by Alcatel after Alcatel's acquisition of Bell Belgium. After the acquisition, Shanghai Bell has been transformed into a joint-stock company and renamed Alcatel Shanghai Bell. The equity taken by Alcatel has increased to 50 percent plus one share.

[17] According to Mu and Wu (2004, in Chinese).

7.2.2 FDI and Market Structure in Different Segments: Climbing the Industrial Development Ladder

The at-entry impact of foreign entry depends on pre-existing market structure and entry mode (see Subsection 4.2.2). In terms of pre-existing market structure, when some first-movers entered, the domestic industry of specific segments was virtually non-existent, with the market dominated by imports. The opening up of markets to inward FDI and the entry of MNCs directly increased market contestability. The other significant at-entry effect was the reduction of imports. Taking importers into account, the entry of MNCs increased the number of sellers and decreased market concentration. Telecom equipment manufacturing is characterised by high start-up costs and economies of scale, which make market entry difficult, especially in developing countries. The degree of barriers to entry influences the impact of FDI on market structure. In industries with high barriers to entry such as China's telecom equipment sector, inward FDI can make a significant difference to market structure.

Inward FDI makes a difference to concentration in the relevant market in the long run, that is, the post-entry effect. The actual impact of MNC participation on product market concentration depends on a number of factors (see Subsection 4.2.2 for a detailed discussion). The traditional accounts of these factors focus on the interactions between MNCs and domestic firms (see e.g. UNCTAD, 1997a) and the role of the policy environment has been largely overlooked (see Section 4.3 and Section 4.4 for theoretical extensions). In China's telecom equipment industry, these firm-level factors and government policies work, on balance, to determine market structure. We examine the post-entry effect of FDI on this industry by examining the market structure of different segments in 2002. Table 7-13 illustrates the market share achievements of FIEs and domestic players, most of which compete in a broad range of product lines in the telecom equipment market. Table 7-13 indicates that MNCs have taken a significant share in various segments of mainstream telecom equipment markets, while several leading domestic firms have been even more successful in terms of market share performance. The domestic firms include SOEs, POEs and other companies wholly owned or controlled by domestic entities.

Table 7-13 Market structure in mainstream telecom equipment markets in 2002 (percent)

Company	*Central office switches*	*Transmission systems*	*Mobile telecom systems**	*WAN access equipment*
Domestic firms				
Huawei	45	46	9	35
ZTE	15	14	4	14
Fenghuo		11		
FIEs				
Alcatel (Shanghai Bell)	20	7		34
Siemens	15		13	
Lucent		6		
Nortel		11		
Nokia			19	3
Ericsson			27	2
Motorola			20	
Concentration ratios				
C3	80	71	66	83
C5	97	89	88	91

Source: MII and China International Capital Corporation Limited (CICC).
Note: * Data for 2000.

The high concentration ratios demonstrate that China's telecom equipment industry is a small-number-player game, which is consistent with the nature of the telecom equipment industry. Domestic firms are among a limited number of dominators in most segments. Leading domestic firms such as Huawei, ZTE and Datang are competing head-to-head with MNCs in telecom systems such as SPC switching equipment, mobile systems (GSM, GPRS and CDMA) and every segments of the mainstream telecom equipment market. Firms from other sectors such as consumer electronics were also lured into the terminal market and have been growing aggressively in recent years. Now domestic firms are beating MNCs and gaining significant market share in almost every area except for several high-end products (see Table 7-14).

Table 7-14 Shares of foreign and domestic firms in various markets in 2002 (percent)

Segment	*Domestic firms*	*FIEs*	*Top three firms*
Central office switches (lines)	65	35	Huawei, Shanghai Bell and BISC
Transmission systems	74	26	Huawei, ZTE and Fenghuo
Mobile telecom systems (Base stations/switches)*	24/32	76/68	Ericsson, Motorola and Nokia
Mobile telecom terminal (handsets)	39	61	Motorola, Nokia and Bird
WAN access equipment (ADSL)* (sales)	62	38	Huawei, Shanghai Bell and ZTE
PHS systems	39	61	UT Starcom, ZTE and Lucent
Cable (sales)	90	10	Changfei, Fenghuo and Hengtong
Optical fibre (sales)	29	71	Changfei and Kangning

Source: MII and CICC.
Note: * Data for 2001.

Although concentration ratios are high, the leading firms are undergoing constant changes in different segments due to intensive competition. As a result of the policy to limit the number of FIEs in the early years of the development of a specific segment, only a small number of pioneers entered the market and enjoyed the first-mover advantages. First-mover advantages (see Subsection 6.3.1 for a discussion) arise when pioneers develop a sustainable competitive advantage over late entrants. For the first-movers in China's telecom equipment industry, the sources of first-mover advantages include for instance the preemption of assets and buyer switching costs. Based on their localisation advantages over importers and their technology advantages over domestic players, the first-movers built up strong market positions and dominated the relevant markets. However, the subsequent admission of new market entry introduced competition and the dominant first-movers faced fresh rivalry. Motorola, for example, controlled 70 percent of the mobile phone market in 1993. However, in 1997 Ericsson took over the number one position as China's dominant supplier of mobile telephony and Nokia also seized a large part of the handset and transmission markets. In addition to competition among MNCs, domestic firms represented a key competitive force in the market. With support from industrial policy and based on some specific competitive advantages (for instance in distribution and marketing), domestic firms caught up fast and quickly obtained a leading market position. A pattern of structural change, described in the model with the catalytic promotion from inward FDI (see Figure 4-5), exists in virtually all segments in China's telecom equipment industry. Various government policies played different roles in the various phases of structural change.

The endogenous technological progress that took place in the era of planned economy reflects the model of structural enhancement without FDI and technology transfer from foreign firms (see Figure 4-5). With inward FDI (supposing it is market-seeking and aimed at supplying the domestic market), the process of structural change becomes more

complicated. This process can be seen in China's telecom equipment industry since the mid-1980s, first in the SPC switches market (Shen, 1999; Tan, 2002), then in mobile telecommunications and other high-end segments (Liang, 2003). In the SPC switches market (see Table 7-15), Alcatel and Siemens entered in the 1980s and transformed an import-dominated market (Phase 1 in Figure 4-5) into an IJV-dominated industry (Phase 2 in Figure 4-5) in the early 1990s. In 1992, domestic branded SPC switches started to supply the market (Phase 4 in Figure 4-5).

Table 7-15 Shares of imports, IJVs and domestic firms in the SPC switches market (percent)

Item	*1982*	*1987*	*1992*	*1997*	*2000*	*2002*
Imports	100	89	54	5	0	0
IJVs	0	11	36	63	57	35
Domestic firms	0	0	10	32	43	65

Source: Tan (2002) and MII.

Four domestic firms (Huawei, ZTE, Datang and Great Dragon) have grown up, competing with the two pioneering IJVs. Huawei and ZTE have become the nemesis in recent years. Table 7-16 shows the revenues of Huawei, ZTE and the two pioneering IJVs, highlighting the dynamics of China's telecom equipment industry and the rapid rise of domestic firms. Within the domestic telecom equipment vendors, Huawei is by far the largest and best known. Huawei, a POE owned principally by its employees, was established in 1988. In 1992, Huawei's revenue reached RMB¥ 100 million. After rapid development since the mid-1990s, Huawei's global revenue increased to RMB¥ 31.7 billion in 2003, including foreign sales of US$ 1.05 billion (27 percent of its totally turnover).[18] Huawei has established more than 30 branches in the world and its products were sold to over 40 countries. After being successful in developing markets, Huawei began to get business in developed markets. In 2003, Huawei won contracts in many developed markets, such as France, Spain, Germany and Portugal, and began selling equipment in the United States under OEM arrangements with 3Com. Huawei is now the world's second largest supplier of advanced digital subscriber lines.[19] Huawei has built 3G networks in Hong Kong and the United Arab Emirates.

Table 7-16 Revenues of four firms (RMB¥ million), 1995-2002

Company	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*
Huawei	1,270	2,600	4,189	7,180	10,215	15,200	16,229	17,214
ZTE	196	580*	631	1,968	2,539	4,523	10,926	12,454
Shanghai Bell	4,545	4,575	5,006	6,046	8,647	10,820	15,101	11,138
BISC	1,024	1,719	1,988	2,916	2,554	3,144	4,047	1,584

Source: MII and Shanghai Stock Exchange.
Note: * Contractual sales.

Similar structural changes took place in mobile telecommunications later, but at an even faster pace (Table 7-17). As of 1999, domestic players have been entering the mobile telecom equipment market with strong support from the government. At the end of 2002, they took the place of MNCs, which had dominated the market for more than ten years. In

[18] The revenue data of Huawei in 2003, RMB¥ 31.7 billion, published by Huawei is different from the data complied by the MII in the 'Top 100 Electronics Firms' as listed in Table 7-11. This difference may be caused by the different statistical scope.

[19] See Ben Dolven, 'Making the whole world listen', *Far East Economic Review*, February 26, 2004.

the same period from 1998 to 2002, total production in the mobile telecom equipment industry increased from RMB¥ 10 billion to over 200 billion. In 2002, exports of mobile handsets climbed to US$ 4.1 billion and the export of base stations reached US$ 470 million. China's mobile telecom equipment industry has become the largest in the world. Meanwhile, Huawei, ZTE and Datang have captured a total of 10 percent of the global GSM base station market.

Table 7-17 Shares of domestic brands in mobile telecom equipment markets

Product	*1998*	*1999*	*2000*	*2001*	*2002*
Base stations	0	2	10	24	70
Switching equipment	0	4	12	32	50
Handsets	0	3	11	21	39

Source: MII.

Importers have been gradually crowded out. As increasing market share has been captured by Huawei and ZTE, with IJVs losing ground and exports increasing, the market structure has evolved towards the last two phases – Phase 5 and 6 in Figure 4-5. While Huawei's foreign sales reached US$ 1.05 billion, 27 percent of its total revenue in 2003, ZTE saw its international sales jumped 90 percent to US$ 600 million. Low costs at home and high degrees of government support have fed the rise of Huawei and ZTE.[20] Based on their cost advantages, Huawei and ZTE have snapped up contracts in the developing worlds and begun to extent their presence to the developed markets. Both Huawei and ZTE are known for hammering margins paper-thin. Due to the fierce competition in the Chinese market, Huawei and ZTE can earn bigger margins overseas although they often undercut their competitors by 20-30 percent.

The structural change depicted in Figure 4-5 becomes more complicated as we consider the upgrading from low- to high-end products as what took place in China's telecom equipment industry. The same structural change processes take place from low- to high-end products and sometimes simultaneously in different segments. The imports and affiliates of MNCs are not simply crowded out of the market and they usually turn to more advanced technologies and initiate another round of pioneering and catching up, based upon their technology advantage over domestic firms. As the structural evolution approaches its later phases, nor do profit-eager domestic players stand still. Instead they engage in the catching up process in the more technology-intensive product. At the same time, based on their cost advantage over MNCs, domestic firms begin to internationalise and go abroad to compete with MNCs in the low-end product market. As this dynamic process continues and the time lag between MNCs and domestic firms becomes smaller, the national industry successfully moves up through the technology ladder. As MNCs supply the market with the same technology as they supply their home market, the technological catch-up reaches its final phase, domestic players gain international competences, and the domestic market becomes part of the integrated global market.

7.2.3 FDI, Competition and Technological Progress in the Telecom Equipment Industry

FDI significantly injected international competition into the domestic telecom equipment

[20] See Ben Dolven (2004).

market, which had a very limited number of sellers prior to the entry of foreign firms. MNCs, because of their possession of ownership advantages and its status in an international production system, have more competitive advantages and greater conduct options available than domestic firms (see Subsection 4.3.1). Li *et al.* (2000) explored the competitive advantages carried by MNCs in China's telecom equipment industry. These characteristic features of MNCs affected the structure of the telecom equipment market and also had consequences for the competitive situation in this market and, hence, for the performance of firms and an industry as a whole. However, the same competitive strength could, under certain conditions, also create opportunities for MNCs to suppress competitors, gain dominant positions within markets and even engage in anticompetitive practices, thus leading to possible reduction in efficiency. The competitive market structure in China's telecom equipment industry, as we examined in last subsection, largely eliminates this possibility. With effective competition among both international and domestic firms, FDI improved the performance of the industry and increased consumer welfare by lowering prices, improving product quality, increasing product variety and introducing new products. For example, as the product quality and diversification highly increased, the price of SPC switches has declined from US$ 300 to US$ 30 per line.

FDI affected the industrial growth of China's telecom equipment sector through two channels, that is, impacts on factor input and on Total Factor Productivity (TFP), or efficiency in the use of production factors. Financial resources are not the only factor through which FDI can affect industrial development. MNCs provided proprietary assets, which are usually firm-specific and costly for Chinese firms to acquire independently. The transfer of such assets took place not only intra-firm but also opened up to further dissemination to other firms in the industry and even the economy at large. The decisive presence of MNCs and the rapid rising of domestic firms together determine the technological progress and industrial development in China's telecom equipment sector. The degree of technology transfer is dependent upon the technological capabilities of domestic firms (see Subsection 4.1.2). China's relatively high technological capability has largely promoted technology spillovers in telecom equipment manufacturing, accordingly increasing the roles played by inward FDI in fostering industrial growth. The development of domestic telecom equipment vendors is the main determinant of technological learning capabilities.

MNCs have been recognised as one of the principal vehicles for the international transfer of technology and managerial know-how (see Subsection 4.4.1). The possible mechanisms of technology transfer include the spillovers and other externality effects. Nevertheless, the basic incentive of innovation comes from competition. Competition has many benefits, of which the promotion and diffusion of innovations is one of the most important. The longitude data for the market share achievements of different firms in China's telecom equipment industry demonstrates that, as a growing number of MNCs and domestic firms entered the market, the degree of competition increased. Moreover, the changing pattern of market share distribution suggests that it is an outcome of dynamic competition rather than static dominance by specific firms. In fact, the increasing competition makes it very difficult for firms to gain a strong foothold in terms of market share.

In the telecom equipment industry, inward FDI and intensified competition led the diffusion of innovations. MNCs are efficient vehicles for the transfer of technologies. In resource-based and low-technology manufacturing activities, the technology transfer benefits may be low; in high-technology activities such as telecom equipment manufacturing, however, they may be considerable. In the early years, technology transfer,

although a stipulation of the Chinese government, was limited and mostly confined to local suppliers, helping them to build up managerial and functional capabilities. Because of the relatively low domestic technological learning capabilities, horizontal (or direct) technology transfer was limited. Personnel mobility was also low, with high wages acting as an impediment preventing skilled engineers from being lured away by domestic firms. The strategic consideration of MNCs prevented them from transferring core technologies to IJVs. R&D investment was less than MNC average and even lower than that by leading local firms. The R&D within local affiliates was principally for product localisation and less generic technologies or ingenious technologies were developed.

Nevertheless, MNCs have set up models for local companies to closely watch and imitate, in the areas of production, management and marketing. Linkages are of particular significance to developing countries because they provide an effective means of diffusing valuable knowledge and skills throughout the economy. Even in the early years with much limited technology transfer, vertical transfer was much better and technologies for components localisation were transferred, as well as production technologies. In China's telecom equipment industry, effective linkage means that local domestic firms are learning and increasing their technological capacities rapidly. With government support, EastCom, for example, rapidly increased its technological capability through OEM for MNCs and became a strong player in the terminal market with its own brand in recent years. The linkages also lead to various indirect effects for the host economy. For instance, more and more efficient local suppliers of intermediates and components highly benefits domestic downstream firms in the production value chain.

Since the early 1990s, local domestic firms were learning and increasing their technological capacities rapidly through effective linkage. The rise of domestic firms highly increased domestic technological learning capabilities and promoted the degree of technology transfer. Leading domestic firms, which compete head to head with MNCs, mainly built up their core competence based on intensive in-house R&D. Competition not only provides incentives for firms to cut costs and eliminate inefficiencies, but also urges firms to innovate. In technology-intensive industries such as telecom equipment manufacturing, the constant introduction of new products and the R&D investment to achieve product innovation is critical for the success and even survival of a firm. In such environment, firms invest in R&D not only to gain short-term profits, but also to maintain their long-term survival. Highly intensified competition significantly increased the level of innovation for domestic firms.

There are two approaches of measuring the innovation intensity of firms. First, from the input perspective, innovation can be measured by the factors that contribute to the build-up and maintenance of R&D facilities. These factors include R&D investment, research personnel and equipment. Secondly, from the output perspective, innovation can be measured by certain outcome of firms' R&D activities. Based on both approaches, we find that leading domestic firms are intensively involved in innovation activities. Although the absolute level of R&D expenditure is still much lower than that of MNCs, domestic players have spent a large share of their revenues in R&D (Table 7-18).

Table 7-18 R&D expenditure* and share of revenues: leading domestic players and MNCs

Company	*2000*		*2001*		*2002*	
	R&D expenditure	*percent*	*R&D expenditure*	*percent*	*R&D expenditure*	*percent*
Domestic firms						
Huawei	2,070	14	3,050	19	3,056	18
ZTE	541	12	1,130	10	1,182	9
Datang	344	12	390	12	165	6
MNCs						
Motorola	4,437	12	4,318	15	3,754	14
Nokia	2,584	9	2,985	10	3,052	10
Lucent	4,018	14	3,520	17	2,310	19

Source: MII and CICC.
Note: *RMB¥ million for domestic firms and US$ million for MNCs.

The leading domestic firms in China's telecom equipment industry such as Huawei and ZTE are among the most R&D intensive companies in China. Huawei spent 18 percent of its total revenue in R&D in 2002 and almost half of its employees were engaged in research activities. It has been one of the top patent appliers in the world telecom industry since the late 1990s. Table 7-19 shows the number of patents in mobile telecommunications in China and the world in 2001. In 2002, China's patent applications in telecommunications was 1880 and 766 patents were granted.[21]

Table 7-19 Numbers of patents in mobile telecommunications in China and the world in 2001

Rank	*China*		*World*	
	Company	*Patents*	*Company*	*Patents*
1	Huawei	53	NEC	373
2	ZTE	40	Samsung Electronics	333
3	Yingyeda Group (Shanghai)	13	Ericsson	245
4	Huang Jinfu	10	Nokia	242
5	Beijing Telecommunication University	9	Panasonic	190
6	Yingyeda Group (Nanjing)	8	Lucent	181
7	Telecom Transmission Research Institute, MII	8	/	140
8	Telecom Science Research Institute, MII	8	Siemens	134
9	Tsinghua University	7	Motorola	125
10	Beijing Xincheng	5	Alcatel	100

Source: *China Electronics*.

7.2.4 The Emergent Sectoral System of Innovation

A sectoral system of innovation has emerged in China's telecom equipment industry. This system is a part of China's emergent national system of innovation, which integrates government efforts and business activities. R&D spending in China grew rapidly over the past decade. In 2001 it reached almost USD 60 billion in current purchasing power parity, only behind the United States and Japan in the world (OECD, 2003). The transformation from a traditional S&T system into a system of innovation is one important aspect of China's multi-dimensional economic transition. The telecom equipment industry provides a typical case of this process of transformation. Inward FDI and related competition, linkage and spillovers between foreign and local firms have significantly contributed to the performance of the sectoral system of innovation in this industry. The R&D investment and organisational learning of firms competing for domestic and global market share have

[21] According to Mu and Wu (2004, in Chinese).

contributed to the emergence of the innovation system. On the other hand, government S&T efforts as well as relevant policies (such as FDI policy and industrial policy) are crucial to the development of this system.

China had developed a considerable technological capability under the S&T system in the era of planned economy (Conroy, 1992). The emergent system of innovation was transformed from this traditional S&T system, which mainly consisted of independent research institutions, universities and specialised factories. In the pre-existing S&T system, innovation and production were two separated activities. The process of innovation was managed by government ministries rather than production units, through separate chains of command and by different channels of finance. The transformation can be seen as a shift from the S&T system dominated by one state sector towards a diversity of sources of innovation (Radosevic, 1999). In the era of planned economy, most technological innovations were pushed by the research institutes and supportive activities, while the emergent system of innovation consists of diversified entities and activities in different sectors, at different levels and from different origins. In the open economy of post-reform China, FDI and the entry of MNCs provide crucial source of innovation and technological progress. The impact of FDI on enhancing national technological capabilities depends on the dynamic process: how much does the enhancement of local capabilities takes place over time, how far do local linkages deepen, and how closely do foreign affiliates integrate themselves to the local 'learning system' (Lall, 2000). The extent of the dynamics process depends on the interactions among corporate strategies and resources, the development of domestic markets and government policies. Active government policies may play an important role in this dynamic process (see Figure 4-5).

Inward FDI led to the diffusion of innovations and the relation between MNCs and domestic firms became the core factor contributing to the development the innovation system and determining the performance of it. MNCs presented a crucial actor in the newly formed sectoral system of innovation, in addition to the pre-existing research institutions, universities and specialised factories in the traditional S&T system. MNCs have taken significant share of Chinese telecom equipment market, but several leading domestic firms have been even more successful. The rise of domestic firms presented an essential part of the firm sector in the emerging sectoral innovation system. For export-oriented MNCs that operate in complex industries such as electronics, as noted in Subsection 4.4.1, efficiency requirements reduce the scope for domestic linkages in developing countries. As local intermediate producers grew up, however, situation in these industries in specific developing countries changed. Following the East Asian NIEs, China experienced this process in its electronics & ICT sector in general and the telecom equipment industry in particular.

Enterprises are central actors in the system of innovation and they play a key role in the commercialisation of technologies. In the planned economic system, the factories are not the enterprises in the Western sense. The efficiency with which the factories use given technologies is often relatively low. Technical inefficiency and obsolescence lead to low productivity, affecting the quality of their products and handicapping their ability to meet market demand. In China's post-reform telecom equipment industry, as enterprises developed and engaged in innovation, a system of innovation centred on firm R&D activities emerged. In the late 1980s, the large-scale installation of imported switches and the presence of IJVs in the SPC switches sector fostered technology transfer. Researchers and engineers, teamed with entrepreneurs, quickly grasped the opportunity to develop competitive local products and shared the high profits with IJVs (Shen, 1999). The personnel of these companies are mainly from state-owned institutes or factories, which

provided abundant human resources as a valuable legacy of the pre-existing S&T system.

In the emerging sectoral system of innovation, some SOEs and listed companies with state control were formerly state-owned research institutes, which dominated the S&T system for a long period of time. As the primal institutional legacy of the S&T system, these research institutes provided important institutional support for the newly emerged system of innovation. On the one hand, they provided a plentiful supply of human capital; one the other hand, some successful enterprises emerged from these institutes after corporation orientated restructuring. Successful domestic firms emerged from the environment of dynamic institutional transition and rapid industrial development. They engaged in intensive innovation activities and became the leading force in the emerging system of innovation. Based on the intensive R&D activities of the corporate sector, China ranked high on the scale of innovation capability in telecommunications. China became the fourth largest innovative country in mobile telecommunications (in terms of numbers of patents) from 1997 to 2001, behind Japan, South Korea and the United States.

In the system of innovation, firms play a key role, but do not operate as isolated entities. Their activities are shaped by national and sectoral factors. In China, government S&T efforts are important components of the system of innovation. The emerging system of innovation consists of national S&T programs and public research institutes, which interact actively with firms to develop technology for the market. The MII, coupled with a number of other government agencies such as the MOST, have extensive authority to formulate and implement policies in respect to ICT industries in general and the telecom equipment industry in particular. The ministry is actively engaged in S&T programs at a national level with the purpose of promoting technological development in some specific areas. From 1999 to 2002, for example, the MII implemented the 'Mobile Specialisation' project to support the development of China's mobile telecom equipment industry. RMB¥ one billion, combined with further six billion R&D fund from project undertakers and banks, was spent on 84 projects involving mobile telecom products and components. This government effort significantly contributed to the rapid growth of the mobile telecom equipment industry in recent years.

A broad range of government policies supported the emergence of the sectoral system of innovation in the telecom equipment industry, as they shaped the general industrial context in which firms emerge, compete and innovate. The extent of the dynamics of technology transfer process depends on the interaction of the many factors that are heavily influenced by government policies. It has been shown that countries with relatively stringent restrictions on inward FDI that force MNCs into some kinds of partnership with local firms seem to obtain relatively little spillovers (see Subsection 4.4.3). In general, the more competitive and outward-oriented the government policies are, the more dynamic the upgrading process becomes. The impact of FDI on technology transfer and innovation diffusion is enhanced in an environment characterised by an open trade and investment regime. In such environment, FDI can play a key role in improving the capacity of the host country to respond to the opportunities offered by global economic integration (OECD, 1998b). The internationalisation strategy adopted by the Chinese government has provided the basic policy foundation for rapid industrial development in the telecom equipment industry. This strategy encouraged most MNCs to invest in China and has led to intensified and internationalised competition in the domestic market, which in turn promotes innovation, efficiency and industrial development.

The industrial policy for the telecom equipment sector has proven a key instrument for the birth of the sectoral system of innovation. It has helped to transform an extremely laggard industry into the country's main industrial pillar and one of the most competitive

industries in the world. The development of domestic enterprises is one of the main objectives of industrial policy. Several methods have been used to support domestic players, such as research grants for R&D, low interest loans, tax reduction and provision of land in high-tech industrial parks. Sometimes, operators are also encouraged to purchase products from domestic vendors. Successful domestic players such as Huawei and ZTE benefit a lot from this supportive industrial policy. With support from government policy, the rise of domestic firms and brands fosters effective competition in the market. The rising level of local capabilities promotes the benefits of spillovers from MNCs. The deepening capabilities of local firms yield greater benefits than just receiving the technology and managerial know-how from MNCs.

7.3 Determinants of Innovation: Hypothesis Development

This section investigates the determinants of innovation in China's electronics & ICT sector. Based on the approach that integrates FDI into the conceptual framework of the system of innovation, as suggested in Subsection 4.4.2, this section empirically examines the relation between foreign and domestic firms in terms of R&D spillovers. The lack of rigor and specificity prevents the system of innovation approach from becoming a 'theory' of innovation (see Subsection 4.4.2). The best way to overcome this obstacle is by actually using this approach in empirical research. China's electronics & ICT sector since the mid-1980s provides an appropriate case to study thus to fill the theoretical and empirical gaps in the SI approach and the FDI spillover literature. Inward FDI contributed significantly to the innovative and technological advance in China. From a sectoral perspective, different industries realised different degrees of success in terms of industrial development and technological advance in the reform era. Among them, the electronics & ICT sector is a typical example of rapid industrial and technological development. FIEs, especially MNC affiliates, have contributed significantly to industrial development and technological progress in this sector.

This section aims at identifying the determinants of innovation propensity of firms in China's electronics & ICT sector. It investigates to what extent the performance of innovation systems, in terms of the R&D expenditure by large firms, has been influenced by inward FDI and some other firm- and industry-level factors. There has been very little overlap between the studies of international business and innovation system (Van Tulder *et al.*, 2001). This study makes contribution by integrating FDI into the conceptual framework of the SI approach. Based on this theoretical framework, we identify the crucial factors that determine the performance of the innovation system and analyse the nature of the relationship between foreign and domestic firms in terms of R&D spillovers, which is a crucial factor determining the performance of an innovation system.

There have rarely been studies that consider the spillover effects from FDI on R&D activities of domestic firms (cf. Liang and Van Tulder, 2004b). The FDI spillover literature is principally focusing on the relation between FDI in a host country and the productivity of host-country industries. In this stream of research, the determinants of productivity are the central concern and technological progress is usually measured as TFP (see Subsection 4.4.1). Some recent studies on China follow this approach by examining FDI spillovers in Chinese industries (see Subsection 5.2.3 for a detailed survey). A number of these studies assessed the overall effects of FDI on productivity, taking one industry as a whole and not distinguishing FIEs and domestic firms (Liu *et al.*, 2001; Wei and Liu, 2001; Liu and Wang, 2003). Others followed the standard approach of spillover studies by investigating the

effect of foreign presence on productivity of domestic firms (e.g. Hu and Jefferson, 2002). Different from the common approach, Buckley *et al.* (2002) examined not only productivity but also non-productivity spillovers in terms of the development of high-technology products and new products. Similarly, Hu and Jefferson (2001) reported positive FDI spillover effects on introduction of new products in China's manufacturing industries. There have been also studies on productivity spillovers from FDI based on cross-regional analysis (Zhu and Tan, 2000). Cheung and Lin (2004) used the data of patent applications as the measure of R&D output to examine FDI spillover effects on innovation in China. They used the provincial data and emphasised the geographic aspect of R&D spillovers from FDI. To our knowledge, there have been no studies that examined the spillover effects from FDI on R&D activities at the firm level in China. The positive correlation between FDI intensity and R&D expenditure of firms is a practical starting point for testing the R&D spillover effect from FDI.

We have described the structure and dynamics of the innovation system in China's electronics & ICT sector in general and the telecom equipment industry in particular. FDI has been identified a crucial factor that determines the performance of this system. It is important to move beyond mere descriptions of components of innovation systems and the relations between them. A practical approach is to address the activities or functions of innovation systems (Edquist, 1997). The basic function of an innovation system is the generation of innovations, which mainly reflects the performance of the system. The SI approach concerns the determinants of innovations, not their consequences (Edquist, 2001). To study the determinants of innovation at the system level is a crucial way to broaden and strengthen the SI approach and to address a fundamental weakness of this approach, namely the lack of system-level explanatory factors (Lundvall, 1992; Liu and White, 2000). Studying the determinants of innovation at the system level is not necessarily requiring system-level measures of performance. Empirical studies that examine the important factors (mainly causal relations) affecting the performance of the system can generate valuable insights. The causal relations are usually associated with the determinants of innovation activities (R&D expenditure or outcome) for the actors in innovation systems.

Considerable body of literature has been directed towards a better understanding of the determinants of innovation. At the national level, country size, economic development level, economic prosperity and economic openness have been identified as the determinants of innovation (Teitel, 1994; Grande and Peschke, 1999; Varsakelis, 2001). National institutions have also crucial effects on the pace of innovation. For example, intellectual property right legislation, competition policy and financial system have different consequence on the performance of innovation systems (see surveys of empirical studies see, for example, Levin *et al.*, 1987). Cultural factors also influence the pace of innovation (Chandler, 1990; Rosenberg, 1994; La Porta *et al.*, 1997; Varsakelis, 2001). In this study of Chinese industries, we focus on industry- and firm-specific factors.

7.3.1 Determinants of Innovation: Firm-level Factors

A number of firm-level factors are considered as the determinants of innovation intensity. Some factors are easy to measure, while others not. The former includes, for example, size and financial conditions of firms. The latter, for example, includes some specific resources and organisational features. Great disparity exists in the results of empirical studies. Take diversification as an example. Some empirical studies prove a negative relation between diversification and innovation (Baysinger and Hoskisson, 1989; Hoskisson and Johnson, 1992; Hoskisson *et al.*, 1993) and others verify a positive influence (McEachern and Romeo, 1978; Link, 1982; Chen, 1996). A specific analysis of the firm-level determinants of innovation that takes a number of theoretical issues and the characteristics of China's electronics & ICT sector into account should particularly include the following three aspects: firm size, profitability and internationalisation.

Firm size

Firm size is claimed to be a crucial firm-level determinant of innovation. Because information and the innovation based on it have increasing return to scale (Caves, 1996), the marginal benefit of R&D investment increases as scale expends and the same R&D expenditure is more valuable to a bigger firm. Some empirical studies support the positive impact of firm size (Lunn and Martin, 1986; Braga and Willmore, 1991; Henderson and Cockburn, 1996; Arundel and Kabla, 1998; Galende, 2002), while others are not able to verify this (Mansfield, 1964; Grabowski, 1968; Adams, 1970; Scherer, 1984; Acs and Audretsch, 1988; Morck and Yeung, 1991; Graves and Langowitz, 1993). There are also studies that emphasise the advantage of intermediate-sized firms (Scherer, 1965; Mansfield *et al.*, 1971; Smith, 1974; Kumar and Saqib, 1996) or of both large and small size at the same time (Rothwell, 1986; Pavitt *et al.*, 1987; Rothwell and Dodgson, 1994).

To analyse the relation between firm size and innovation propensity, the age of firms must be controlled for. For example, small size is generally considered to hamper innovation, but newly formed firms are typically small and innovative. So we should separate the effect of age from the effect of size when studying the determinants of innovation. However, the sample of this study only covers the largest firms in China's electronics & ICT sector. The age effect for the new venturing does not exist for these mature businesses. Thus we predict:

Hypothesis 1: The larger a firm, the more intensive its R&D activities.

Profitability

Financial conditions of firms influence their intensity of innovation. Transaction cost theory and the positive theory of agency claim that debt financing can discourage innovative activities. Empirical evidence confirms this negative influence (Grabowski, 1968; Branch, 1974; Kamien and Schwartz, 1978; Hall, 1990; Long and Ravenscraft, 1993; Giudici and Paleari, 2000). Schumpeter (1942) argued that large monopolistic firms are the best innovators because they can use their monopoly profit to fund innovation activities. Scherer (1992) surveyed the empirical literature and concluded that Schumpeter's argumentation exaggerated the advantages of the large, monopolistic corporations as the engine of technological change. This debate is related to another firm-level determinant of innovation – profitability, which is positively related to innovation (e.g. Mansfield, 1971; Caves, 1996). It is also related to one of the industry-level determinants of innovation – market structure, which we will discuss later. In China's electronics & ICT sector, the

profitability of firms generally influences their ability to finance innovation activities. Thus we hypothesise:

Hypothesis 2: The higher the profit of a firm, the more intensive its R&D activities.

Internationalisation

Internationalisation effects on the development of technological capacities, because it implies greater competitiveness and an increase in market size, which means the created technology can be used to a higher degree. Caves (1996) suggested a two-way reinforcement relationship between R&D and foreign sales. The empirical literature verifies the positive relationship between exports and R&D expenditures (Hirschey, 1981; Meisel and Lin, 1983; Lunn and Martin, 1986; Braga and Willmore, 1991; Kumar and Saqib, 1996; Fors and Svensson, 2002). China's electronics & ICT sector is one of the most competitive and dynamic industries in terms of both export and outward FDI. Haier, Huawei, ZTE and some other firms in this sector are among the pioneers successfully expanding internationally and these firms are also among the most R&D intensive firms.

For firms in relatively small economies, the domestic market size constrains their ability to increase sales. Thus internationalisation will be essential for expansion as well as for financing their R&D activities. However, for firms in large home countries with large markets such as China, this argument is weaker. Thus we make the following hypothesis and rely on empirical test to demonstrate the actual effect.

Hypothesis 3: The more internationalised a firm, the more innovative it is.

7.3.2 Determinants of Innovation: Industry-level Factors

A number of empirical studies illustrated that the patterns of innovation activities differ significantly across industries, but are remarkably similar across countries for each industry (e.g. Carlsson, 1995; Malerba and Orsenigo, 1996). Factors that related to an industry's technology play a major role in determining the sector's innovation pattern (Carlsson, 1995). As one of the most dynamic sectors in recent decades, the ICT sector has experienced a rapid pace of technological progress and witnessed many radical innovations. Generally speaking, electronics & ICT sector is innovation intensive. However, within this sector, complexity and newness of the technology of different segments differ significantly and accordingly influence the innovation intensity of firms in the segment. FDI spillovers and market structure are the main concerns when we study the determinants of innovation in different industries in China's electronics & ICT sector.

R&D spillovers from FDI

There are several channels through which inward FDI can benefit innovation activities of domestic firms. There is a demonstration effect on R&D activities of domestic firms, based on the strong knowledge and skill base of foreign firms, especially MNCs. The products that foreign firms bring in and the information about foreign firms' previous and present R&D activities can benefit the domestic competitors by improving the efficiency of R&D and limiting the risk of innovation for them. FDI can also benefit domestic innovation through labour market turnover or movement of people. Linkages are of particular significance because they provide effective means of diffusing valuable knowledge and skill from foreign to domestic firms (UNCTAD, 2001).

R&D spillovers from FDI are based on the effect of knowledge spillovers. The literature on R&D spillovers has demonstrated that the knowledge created by firms' R&D activities

can spillover to other firms (e.g. Bernstein and Nadiri 1989; Jaffe *et al.*, 1993). Knowledge spillover refers to the transfer of knowledge from firm to firm, which is an example of positive externality. Loury (1979), Dasgupta and Stiglitz (1980) and Romer (1986) developed theoretical modes of the knowledge spillover process (see Griliches, 1979, and Bozeman, 2000, for surveys of empirical studies). In the context of developing countries, the direction of knowledge flow is principally from MNCs to domestic firms (Blomström and Persson, 1983; Haddad and Harrison, 1993). However, several of recent studies have shown that MNCs conduct R&D activities in foreign market to obtain access to the knowledge created by local firms (e.g. Anand and Kogut, 1997).

Knowledge spillovers from MNCs to domestic firms could come in the form of direct technology transfer and other externality effects, such as human capital enhancement and linkage between foreign facilities and domestic firms. Cohen and Levinthal (1990) suggested that an organisation's ability to evaluate and utilise external knowledge is related to its installed knowledge base, which is driven by prior R&D investment. For domestic firms in developing country, although there is knowledge spillover from MNCs, R&D investment is still functional, as this investment leads to enhanced ability to absorb knowledge. Because the absorptive capacity is path dependent, if a firm is missing the knowledge base derived from previous R&D investment, it may get locked out in the turbulent environment (Cohen and Levinthal, 1990). One of the important channels through which domestic firms can expand their knowledge base is FDI spillover effect.

The literature on the internationalisation of R&D activity has debated the extent of this phenomenon (Belitz and Beise, 1997; Braunerhjelm and Ekholm, 1997; Cantwell and Janne, 2000) and the effects of this trend on host economies (Beise *et al.*, 1998; Blomström and Kokko, 1998). In resource-based and low-technology manufacturing activities, R&D spillover benefits may be low; in high-technology activities such as ICT manufacturing, however, they may be considerable. Based on the premise that R&D spillovers from FDI are positively related to the scale of inward FDI, we hypothesise:

Hypothesis 4: The more inward FDI in an industry, the more innovative firms are.

Market structure

Although monopolistic position provides firms with the cash to finance innovation, it also hampers their incentive to innovate. Geroski (1994), for example, used innovation counts for UK firms from 1945 to 1983 to show that monopolistic industries are less innovative. Economists have long been interested in the impact of competition on innovation. Competition provides incentives for firms to cut costs, to eliminate organisational inefficiencies and to reduce slack. In addition, it also urges firms to innovate. In technology-intensive industries such as ICT manufacturing, the constant introduction of new products and the R&D investment to achieve product innovation is critical for the success and even survival of firms. In such environment, firms invest in R&D not only to gain short-term profit, but also to maintain their long-term survival.

Analysing market structure is a practical approach to measuring competition and the degree of market concentration is one of the main elements of market structure (see Subsection 4.2.1). Concentration is widely used as a measure of market structure to explore the relation between competition and firm innovation. The standard industrial organisation literature predicts the negative correlation between competition and innovation because more competition reduces the monopoly rents that reward entry by new successful innovators. However, empirical work such as Nickell (1996) and Blundell *et al.* (1999) has pointed to a positive correlation between market competition and innovative output. According to Reinganum (1989), in many circumstances increasing the number of

firms leads to faster diffusion of innovations. Blundell *et al.* (1993) demonstrated that while firms with higher market share tend to innovate more, firms in competitive industries tend to have a higher probability of innovation. In particular, as high market share generates an increase in the level of industry concentration, it may lead to a reduction in the aggregate level of R&D expenditures. Concentration has a negative impact on the probability of innovation and the competitive industries tend to generate a higher number of innovations. Therefore we hypothesise:

Hypothesis 5: The more concentrated a market is, the less innovative firms are.

7.4 Test, Results and Discussion

We use the cross-section data for the largest 100 firms in China's electronics & ICT sector for 2000, 2001 and 2002 to test the hypotheses. The firm level data for the top 100 firms in the electronics & ICT sector are drawn from the annual survey conducted by the MII. The ranking is based on the sales of firms, which are identified as 'national' firms, including domestic owned firms and a limited number of FIEs that are controlled by domestic entities. Wholly owned foreign firms and IJVs without domestic equity control are not included in the survey. The 100 firms belong to eight industries within the electronics & ICT sector. The industry-level data are from the MII, China International Capital Corporation Limited (CICC) and some other sources. A multiple linear regression is used to estimate the effects of the hypothesised firm- and industry-level factors on the innovation intensity of firms for the year 2002. Before conducting the regression, we check the level of correlation between the independent variables to detect any harmful multicollinearity problems.

7.4.1 Measures and Variables

Innovation intensity. The empirical studies on innovation usually use two approaches of quantitative measures of innovative activity. First, from the input perspective, innovation can be measured by the factors that contribute to the build-up, maintenance and operation of R&D facilities. The factors include R&D investment, research personnel and equipment. Secondly, from the output perspective, innovation can be measured by certain outcome of firms' R&D activities. The outcome can be measured by patents or innovation counts. Patent applications are most frequently used as an indicator of output of innovation. Innovation counts are comprehensive lists of innovations made by various firms. Corporate R&D expenditure, which reflects firm's financial input to innovation, is widely used as a measure of innovation. To define the dependent variable for our analysis of innovation intensity, we measured the percentage of a firm's innovation expenditure *vis-à-vis* its total sales, which is recognised as a standard measure of innovation intensity (Scherer, 1980).

Firm size. We use firms' total sales to measure their size. As discussed earlier, sales are a crucial factor related to the size of a firm concerning R&D activities. When a firm increases its sales, the knowledge created by its R&D activities will be utilised more extensively, which leads to an increased rate of return on each dollar that has been spent on R&D. A number of studies have found a positive relation between R&D activities and firm size, measured by total sales (see Cohen and Levinthal, 1989, for a survey).

Profitability. We use the percentage of a firm's annual profit to its total sales to measure

the firm's profitability. The use of intensity rather that absolute volume of profit when measuring profitability of firms can control for the size effect and is also a way to reduce heteroscedasticity in the regression analysis.

Internationalisation. Chinese firms are still in their first phase of internationalisation. Although firms in the electronics & ICT sector, especially the telecom equipment industry, are among the pioneers of international expansion, most of these firms are still choosing exporting as their main mode of foreign market entry. Thus we use exports to reflect the degree of internationalisation. Foreign sales are compared with total sales to measure the degree of internationalisation.

R&D spillovers from FDI. The R&D spillover effect in one industry is determined by the relative level of inward FDI and some institutional factors, which are not easy to identify and measure. We use the relative level of FDI (foreign presence) as a proximate of R&D spillover effect from FDI. The share of sales of all FIEs to total sales of an industry is used to measure the level of FDI (foreign presence) and accordingly R&D spillovers from FDI in the industry.

Market concentration. The HHI is advocated as having desirable properties as a measure of concentration. However, it is demanding from the collection and compiling perspective because it requires data of the market shares of all firms within an industry in order to be calculated. Consequently, empirical research frequently employs concentration ratios as the substitute for the HHI. The concentration ratio is measured as the sum of the market shares of, typically, the three, five or eight largest firms in the industry with firms being ranked by sales. We use five-firm concentration ratio (C5) to measure the market concentration in different industries.

7.4.2 Analysis, Results and Discussion

A correlation analysis was performed to determine the level of correlations between the independent variables. Table 7-20 reports the summary statistics and correlations between the study variables. The highest correlation exists between FDI and market concentration at 0.541. The correlation between FDI and market concentration is consistent with the argument that FDI speed up the concentration process in developing countries, which is widespread and under intensive empirical test (see UNCTAD, 1997a, for a survey).

Table 7-20 Means, standard deviations and correlations of independent variables

Variables (measures)	*Mean*	*s.d.*	*1*	*2*	*3*	*4*
1. Firm size (total sales) (RMB¥ billion)	5.72	10.58				
2. Profitability (profits/total sales)	0.05	0.05	-0.095			
3. Internationalisation (foreign sales/total sales)	0.25	0.29	-0.089	-0.030		
4. FDI spillovers (the share of FIE production)	0.19	0.15	-0.042	0.054	-0.355	
5. Market concentration (C5)	0.54	0.16	0.171	-0.142	-0.315	0.541

Results of hypothesis testing are reported in Table 7-21. Hypothesis 1 was supported as a statistically significant parameter estimate was found ($b=0.04$, $p<0.1$) for the relation between firm size and innovation expenditure. Hypothesis 2 was also supported: profitability was positively related to innovation expenditure ($b=0.08$, $p<0.1$). The statistically significant parameter estimate ($b=0.11$, $p<0.001$) indicated strong support for Hypothesis 4: intensity of FDI in industries played a significant role in determining innovation propensity of firms. Hypothesis 3 and 5, on the other hand, were rejected. The

estimate demonstrated an insignificant positive relation between innovation and internationalisation (b=0.008; p=0.28). Contrary to the prediction, market concentration was insignificantly and positively related to innovation (b=0.008; p=0.42). Overall, the basic hypothesis relating R&D spillovers from FDI and innovation expenditure of firms was strongly supported. We obtained essentially the same results as in Table 5 when we tested the year 2000 and 2001, indicating the robustness of the results.

Table 7-21 Results of regression analysis

Hypothesis (Predicted sign)	*Variables*	*Coefficient*	*Prob. (t-statistic)*
1 (+)	Firm size (total sales)	0.0374	0.09 (1.70)*
2 (+)	Profitability (profits/total sales)	0.0798	0.08 (1.73)*
3 (+)	Internationalisation (foreign sales/total sales)	0.0082	0.28 (1.09)
4 (+)	FDI spillovers (the share of FIE production)	0.1065	0.00 (5.58)***
5 (–)	Market concentration (C5)	0.0082	0.42 (0.81)
	Adjusted $R^2 = 0.45$		

Note: *** p<0.001; ** p<0.01; *p<0.1.

This study provides evidence of the positive FDI spillover effect on the R&D expenditure of firms in China. This finding is a reflection of the determinants of innovation propensity of Chinese firms in the electronics & ICT sector. From the SI perspective, this study investigates the relation between foreign and domestic firms in terms of R&D spillover effect, which is a crucial factor determining the domestic innovation capability of developing countries. The association between inward FDI and R&D expenditure is strong. However, any observed association between innovation and FDI needs to be carefully considered before concluding that there is a causal relationship. Does FDI cause higher innovation or is it attracted to innovation intensive industries? If FDI causes higher R&D activities, how does FDI do so? In this study, we did not empirically examine the causal relation and mechanism of the R&D spillover effect. By integrating the mechanism of R&D spillovers into the theoretical model, future studies can further elucidate the causality between inward FDI and innovation.

Many factors can explain the innovation propensity of firms. Whether FDI is an independent source of innovation promotion after other factors that are commonly thought to determine innovation have been taken into account? FDI not only influences market innovation in developing countries via these factors, but also, in addition to this, has an independent spillover impact on innovation. Future studies should consider the following question: how does FDI, as an independent determinant of innovation, cause higher R&D expenditure not by influencing the other factors, but independently? Because this econometric inquiry is a study of a specific industry in a specific country, as discussed in Subsection 6.4.3, the problem of generalisability comprises two aspects – the size of the sampling and the problem of generalisability lies in the question whether we can generalise our findings from the specific China's electronics & ICT sector to other sectors and other countries – in particular other developing economies. We suggest that the results about the specific determinants of innovation obtained from the specific industrial context are only suggestive and the validity of this theoretical framework needs replication and extension. On the other hand, can we extrapolate the observed patterns into the future? Longitudinal research could provide further investigation on the dynamic nature of R&D spillovers, which could lead to more sophisticated extrapolations of future developments – taking the environmental environment and institutional preconditions into account systematically.

Part IV Conclusion

This part generalises the conclusions of empirical findings in Part III and provides recommendations on China's government policies directed at industries in general and competition policy in particular. Part III assesses the effects of inward Foreign Direct Investment (FDI) on the development of Chinese industries and particularly focuses on the impact of FDI materialised through the mechanism of competition. It demonstrates that the degree of market competition may to a large extent determine the FDI impact on industrial development. We find that competition in Chinese industries may not always be effectively maintained or promoted by a *de facto* competition maintenance mechanism. The FDI effects on industrial development in two important manufacturing sectors are analysed and compared. With regard to the potential anticompetitive effect of inward FDI, the traditional wisdom is that FDI may increase market concentration and lead to dominant positions of Multinational Corporations (MNCs) after entry by suppressing or crowding out domestic firms. The firm-specific advantages of MNCs may raise entry barriers for local firms or make competition too strong for existing local firms and thus crowd them out, therefore increasing concentration and limiting competition. The evidence from China's passenger car industry (Chapter 6) challenges this proposition and suggests that MNCs and domestic firms may collaborate to dominate a market by establishing international joint ventures. The lack of competition may be largely caused by the restrictive government policy in addition to the strong presence of MNCs. The costs of the lack of competition are shown to be multidimensional, while consumers have to pay most (in terms of high prices and limited choices). Government policies largely determine these outcomes – entry restrictions and trade barriers are two basic policy factors determining the degree of competition in industries and thereby influencing the path of industrial development. As highlighted by the experience of China's electronics and Information and Communications Technology (ICT) industry (Chapter 7), FDI may play a rather positive role in case that the government provides a more competition-friendly policy environment.

The rapid rise of a large number of segments in China's electronics and ICT sector demonstrated the effectiveness of industrial policy in promoting industrial development. At the current stage of China's economic development, therefore, industrial policy should still be the central element for a policy framework promoting industrial development. Although problems do exist in the formulation and implementation of industrial policy, to tackle these problems by simply substituting industrial policies with a competition policy seems unlikely to be an optimal solution. A more practical choice may be to complement industrial policies with an appropriate competition policy therefore to reduce the risks, rigidity and uncertainty associated with the formulation and implementation of industrial

policies. Competition policy may help maintain and promote effective competition by countering private restrictions on competition. In addition, an appropriate competition policy may help tackle market imperfections related to the particular institutional context and development level of the country. The advocacy efforts of the competition agency may lead to the rejection or revision of unnecessary anticompetitive regulatory measures, or for the adoption of policies as competition-friendly as possible. Therefore the analysis indicates that the Chinese government should take the option seriously of introducing a formal competition policy. This policy should be an integral and necessary part of a policy framework to ensure that inward FDI play a positive role in promoting sustained industrial development. A well-designed and effectively enforced competition policy is bound to be an essential component of the policy framework benefiting both the welfare of Chinese consumers and the competitiveness of Chinese enterprises, thereby promoting sustainable industrial and economic development.

Any policy reforms and institutional changes should not only be based upon the theoretical analysis that provides rationale but also on empirical studies that provide further prove or prediction that the reforms or changes answer for the real needs of the society or the country. Usually the risk lies in the misjudgement of the needs or wrong prediction of serving for the needs. More often the risk lies in conducting policy reforms and institutional changes merely according to theoretical considerations. On the basis of the analytical generalisation of these empirical findings, as well as the theoretical discussion in Chapter 3 and the contextual inquiry in Part I, recommendations on government policies in general and competition policy in particular are provided in this concluding part. For China, the interrelation between FDI, competition and industrial development is one of the key considerations for the establishment and implementation of a competition policy, Chinese version. This it not only because FDI is one of the most important factors determining the necessity of competition policy for developing countries, but also because FDI is one of the central features of China's development model, which is defining the future of the Chinese economy.

The necessity of competition policy lies in various factors. To simplify this problem by focusing on only one factor is often misleading. In case China would like to establish a formal competition policy regime on the basis of its previous transitional institutional arrangements, it faces particularly the challenge to build up institutions with both domestic and international considerations. Thus, in addition to a deep understanding of the Chinese context, the international policy environment should also be addressed in more detail in this concluding part. Competition policies vary from jurisdiction to jurisdiction and differences between them reflect differences in national economic and legal systems. It doe not seem necessary that developing countries should emulate the competition policies adopted by developed countries. The proliferation of competition policy regimes across the world also does not imply that regimes will converge and a uniformity of rules can be envisaged. There remain substantial variations in the structures and contents of competition policies of different countries. For the moment, it is particularly important for China to consider the design and implementation of competition policy in the light of its own economic, legal and cultural environment. However, fundamental asymmetries across different jurisdictions imply the effective enforcement of national competition policy would be insufficient in the world level. For China, a possible 'soft convergence' with other authorities may be necessary in addition to the emphasis on domestic conditions.

8 Conclusions and Policy Recommendations

The past experience of Japan and the East Asian Newly Industrialised Economies (NIEs) demonstrates that industrial policy can play a crucial role in the promotion of industrial development, economic growth and social welfare. The rapid rise of a large number of Chinese industries further proved the effectiveness of an East Asian-style industrial policy in promoting industrial development. At the current stage of China's economic development, industrial policy should still be the central element for a policy framework to promote industrial development. However, industrial policy instruments are by no means perfect and mistakes may be made, which imply a better economic performance would be resulted had no policy intervention or other policy measures imposed. One of the essential problems of China's present industrial policy, which is quite different from the Japanese and South Korean past experience, is its incapability to ensure a sufficient degree of competition in domestic markets. The problem is associated with the specific economic and industrial context of China as a transition economy, which is characterised by the strong presence of a state sector and the prevalence of government intervention and gives rise to restrictive regulation, mainly reflected by entry restrictions. In some cases, the problem may be exacerbated by the entry of Multinational Corporations (MNCs). The development path of specific sectors, such as the passenger car industry, highlights this risk. To address these problems, simply substituting industrial policies with a competition policy is clearly not the optimal solution that takes into account the current stage of China's economic development. A more practical choice might be to engage in a combination of industrial and competition policies, making full advantage of the effectiveness of industrial policies in directing resource allocation and promoting competitiveness while attempting to avert certain risks, inflexibilities and uncertainties associated with industrial policies through the introduction of competition policy. In addition to countering private restrictions on competition, at present, competition policy in China has a more important role to play in terms of promoting public awareness of competition issues and building public support for procompetitive government policies. The competition agency can also play a unique role in the formulation of government policies, essentially acting as an advocate within the government stressing the merits of market competition and as a representative on behalf of consumers. This boils down to the problems what an 'appropriate competition policy' for China should pursue and whether that could be organised on the basis of existing transitional institutions.

An appropriate competition regime should take into account the market imperfections created by both the interventionist activities of the government and by the political actions of other countries (see Subsection 3.4.5). Both dimensions will be discussed in the first two sections of this chapter respectively. Section 8.1 explores the policy implications of the empirical findings in Part III with regard to the interrelationship between inward Foreign Direct Investment (FDI), domestic competition and industrial development. The

importance of two basic policy factors, namely entry restrictions and trade barriers, in determining the degree of competition and thereby influencing the path of industrial development is emphasised. Two more or less generic models of industrial development and policy framework are drawn from the detailed analysis of two Chinese 'pillar industries': the automotive industry and the electronics and Information and Communications Technology (ICT) industry. The performance consequences and policy challenges of these models are discussed in general. Section 8.2 then discusses the specific challenges for competition issues posed by the impact of increasing international businesses and economic internationalisation. This section also addresses the potential international conflicts that surround the implementation of competition policy in China and abroad. Both bilateral cooperation agreements and multilateral cooperation on competition policy are discussed. Based on the first two sections of this chapter, Section 8.3 discusses the possible design of China's competition policy regime. Objectives, instruments and implementation processes of competition policy, as well as the crucial issues of policy harmonisation and international cooperation, are discussed in this section, providing a framework for the design and implementation of a competition policy, Chinese version.

8.1 FDI, Competition and Industrial Development: Domestic Policy Challenges

China's experience of industrial development in the reform combined industrial policy and economic liberalisation triggered by economic transition. The economic transition led to progressive opening up of many Chinese industries intended at bringing the Chinese economy into the world economy. The World Trade Organisation (WTO) entry coincided with one of the most important liberalisation exercises in world since the 1990s. In parallel, the economic transition also triggered a wave of domestic liberalisation initiatives, which have facilitated the development of the non-state sector. China's experience represents an interesting 'experiment' of policy-induced changes under relatively competitive conditions. Industrial policies have played a critical role in China's industrial development. However, they were by no means perfect and mistakes have been made. Industrial policies, as demonstrated by the Chinese experience, know a number of curbs: first, unnecessary regulation may be imposed in the name of industrial policy; second, therefore, any type of competition mechanisms may be severely hindered by these regulatory policies; third, selective support towards a limited number of firms may lead to reverse selection and the sustainability of inefficient firms, leading to a policy of 'backing losers' or a 'socialisation of loses'; fourth, the focus on the development of in particular large enterprises may lead to regulatory capture that in turn results in the neglect or under-presentation of consumer interests, hence causing welfare losses for the society as a whole; fifth, the positive effects of inward FDI and private entry may be hampered or even reversed by specific regulatory measures. Therefore competition policy may have an important role to play in China to tackle these problems, both in building public support for procompetitive government policy through competition advocacy and in promoting a competitive environment by countering private restraints on competition.

8.1.1 Policy Conditions and FDI Impact: The Performance Consequences of Two Models of Industrial Development

The effect of FDI on economic growth depends upon social, economic and policy

conditions of the host country economy (see Subsection 4.1.1 for a detailed discussion). The environment of a host country's government policy is of great importance both for attracting inward FDI (see Subsection 2.3.1) and for guiding FDI to play a more positive role for economic development. It has been argued that the beneficial impact of FDI on growth can be enhanced in the environment characterised by an open trade and investment regime. However, evidence lacks at the industry level to support this argument. As noted in Subsection 4.1.1, the lack of empirical studies in this respect is largely due to the complexity of policy environment in various industries, the difficulty to identify the manifold dimensions of government policies (see Table 8-1) and the impossibility to separate the effect of one policy from another. How do government policies influence the FDI impact on industrial development? The impact of trade policy raises the first concern. Another concern relates to the FDI regime of a country, which includes incentives to attract FDI, guidelines to channel FDI into desired industries, and various restrictions imposed on business practices of foreign firms. Concerning a specific industry, business restrictions may be the central dimension of a FDI regime in promoting or jeopardising a positive impact of inward FDI. For developing countries or transition economies, the effect of government regulation is crucial in determining the impact of FDI on industrial development. Other aspects of government policies that are not included in Table 8-1 include industrial policy, competition policy and Science and Technology (S&T) policy.

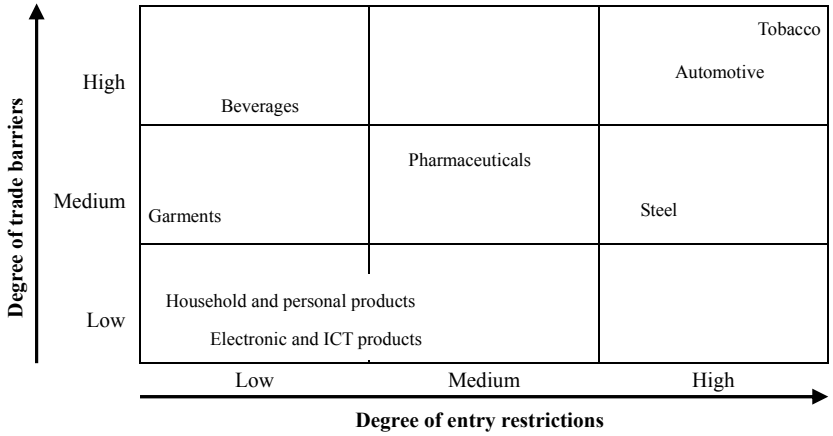
Table 8-1 Main government policies influencing the FDI impact on industrial development

Trade policy	*FDI policy (Business restrictions)*	*Industrial regulation*	
		Price regulation	*Entry control*
Export promotion	Local content requirements, etc.	Market price	Free entry
Import substitution	No restrictions	Planned price	Strict entry control

Two models of industrial policies

The spectrum of government policies in Table 8-1 provide only a very simple decomposition of policy effects, without explaining through what mechanism these policies influence FDI and interact with each other. One of the fundamental mechanisms through which FDI promotes economic development, as argued in Subsection 4.1.2, can be competition. China's industrial sector grew rapidly during the reform era and inward FDI played an important role in this process. Part III demonstrates that the degree of market competition may to large extent determine the impact of FDI on industrial development. Two basic policy factors are proved important in determining the degree of competition in industries – entry restrictions and trade barriers. This supports the argument in Subsection 3.3.4 that, in developing countries, anticompetitive restrictions still come from government interventions in general and restrictions on market entry in particular. Figure 8-1 preliminarily positions selected Chinese manufacturing industries within this analytical framework of dichotomy.

Figure 8-1 Degrees of entry restrictions and trade barriers in selected Chinese industries



The automotive industry and electronics & ICT industry in China presents two contrasting cases and also two basic models of industrial development and associated industrial policies: a more open and competitive model and a more closed and protectionist model (see Table 8-2). Both models do not represent the theoretical extremes that are normally distinguished in literature: the completely open, free trade oriented model versus the closed mercantilist model. The simple traditional dichotomy in development economics of import substitution versus export promotion does not apply to the Chinese hybrid models as well. The two models represent variations of both attracting inward FDI under very specific conditions and aiming at occupying a specific place in the international division of labour to facilitate national industrial development. The distinct performance consequences of these two models are apparent. Both industries have been identified as 'pillar industries', which are subject to preferential treatment from industrial policy. Both have attracted a large amount of FDI and have strong MNC presence. As argued in Part III, discrepancy between the industrial policies for these two industries has been the primal factor that determined the process and pace of their development. In a framework of a restrictive regulatory approach, which was characterised by import substitution and entry restriction, the automotive industry has not yet been able to build up its international competitiveness. The performance in almost all dimensions of industrial development has been relatively poor. In electronics & ICT industries, a strong international competitiveness has been built up. The world's second largest electronics & ICT industry has been successfully established in just over two decades. The evidence from these two industries seems to support a part of the argument of Bhagwati (1978) who suggested that a strategy of export promotion is likely to both attract higher volume of FDI and promote more efficient utilisation than is a strategy of import substitution (see Subsection 4.1.1). The evidence from these two industries demonstrates that a commitment to competitive markets and technological progress, rather than regulatory approaches, as the primary instruments of economic governance, in the specific Chinese context yields major benefits for efficiency, social welfare and industrial development. We should be very careful in generalising these results to other countries, due the rather unique conditions under which the Chinese transition economy has developed and probably will develop in the future (see

Chapter 1).

Table 8-2 Two models of industrial development: comparing two industries

Model	*Trade barriers (Trade policy)*	*Entry barriers*	
		Foreign firms	*Domestic private firms*
Relatively open competitive model (Electronics and ICT sector)	Low tariff and non-tariff barriers	Encouraged entry	Relatively free entry
Relatively close protectionist model (Automotive industry)	High tariff and non-tariff barriers	Strict entry control	Very strict entry control

The different performance of these two industries can be attributed to the following reasons: 1) industrial differences: the technical attributes of the two sectors differ, whereas the electronics & ICT sector is more diversified than the automotive sector; 2) different initial conditions in their early stages of industrial development at the beginning of economic transition might influenced the development of enterprises and the orientation of industrial policies; 3) different global and strategic configurations in which the two industries have developed (ICT industry for instance developed in a much clearer international division of labour with relatively low import restrictions in the largest markets, i.e. North America and Western Europe; whereas automotive developed on the basis of largely domestic production with much lower degree of international labour division); 4) the different characteristics of the government policies and regulatory frameworks of these two industries in China. Researching all four factors in detail is beyond the scope of this study. But the preceding analysis of the interrelationship between FDI, government policy and industrial development in Chapter 6 and Chapter 7 shows that the different patterns of government policies can be considered an important factor defining the paths of industrial development in these two sectors. Government-imposed entry restrictions and trade barriers largely determined the nature of market competition and therefore strongly influenced the path of industrial development. One of the key elements in the promotion of competition in China, as well as in many other developing countries, has been found to be the relaxation of government restrictions on market entry (see Subsection 3.3.4).

In the period from the mid-1980s to the late 1990s, the development of China's automotive industry had been guided by an industrial policy that can be characterised as a relatively closed and protectionist model. Rather than the commonly defined industrial policy that directs resource allocation toward specified areas by influencing firm decision through various forms of incentives, China's industrial policy for the automotive industry principally consisted of a regulatory framework, which was largely consistent with the previous system of central planning. A traditional regulatory framework persisted in the name of industrial policy. Only since the late 1990s, with the gradual reduction of trade barriers to facilitate WTO entry and with the new entry of more enterprises, this model of industrial policy has undergone substantial revision. In the passenger car industry, a strict entry control had been implemented in order to limit the number of firms. The control on market entry was effective for all ownership categories of firms, among which non-state-owned domestic firms were in the weakest position and had long been forbidden from entering the industry. Entry restrictions directly limited the number of competitors in the industry and hampered competition. On the other hand, high trade barriers on the basis of the infant industry argument and an import substation strategy sheltered domestic firms from international competition through imports. The lack of effective competition kept the performance of China's automotive industry relatively poor. Except for the explosive production growth in recent two years associated with the WTO entry and the revision of

industrial policy, the growth of this industry had been relatively slow in the 1980s and 1990s. The welfare losses from the market dominance of a very limited number of firms can be considered significant. Despite strong government support and high levels of profit for individual firms, the industry still has not built up international competitiveness. Firms were reaping high profits and sharing the rents behind the high protection rather than competing in international markets. Neither did domestic technological capability develop in the passenger car sector as expected. The industry as a whole can be considered as merely a production base of MNCs.

Contrary to the automotive industry, the development of China's electronic and ICT industry had been led by an industrial policy that can be characterised as 'open' and 'competitive'. This approach was largely in line with the general process of deregulation in most Chinese industries of consumer products. The industrial policy for the electronics & ICT sector has been generally based on policy incentives rather than regulatory measures, such as entry restrictions in the automotive sector (see Subsection 7.1.2). The government generally adopted a hands-off approach to this sector. In terms of policies on foreign trade and FDI, the policy for the electronics & ICT industry has been markedly more liberal than that for the automotive industry. The trade policy for the electronics & ICT industry partly followed the model of Japan and the East Asian NIEs – outward oriented approach and strong export promotion – but combined with this with a much stronger commitment towards inward FDI. The development dynamics of China's electronics & ICT sector is highlighted by the sequential rise of different segments. The similar pattern of industrial development in these segments demonstrates that a similar industry context, including industrial policy, produces more or less similar outcomes.

Based on the contrasting evidence from the automotive industry and the electronics & ICT industry, the performance consequences of the two different models of industrial development and government policies can be summarised in Table 8-3, which takes into account the development of domestic production capacity, local enterprises, technology and international competitiveness. Both models are considered to have positive effects on the development of domestic enterprises. But the impact of the more close and protectionist model has been much lower than the more open and competitive model.

Table 8-3 Consequences of the two models of industrial development: comparing two industries

Model	*Production capacity*	*Domestic enterprise development*	*Technological capability*	*International competitiveness*
Open competitive model (Electronics and ICT)	↑	↑	↑	↑
Close protectionist model (Automotive)	↑	↑*	↓	↓

Note: *As demonstrated by the case of China's passenger car industry, the impact on the development of domestic enterprises of the close protectionist model is low if concerning its poor effects on the technological progress and international competitiveness of domestic firms.

Formulation of industrial policy

Why have different models of industrial policies with totally different characteristics been formed, persisted for a relatively long period of time, and dominated the development of two strategic industries in China? The various capabilities and strategic considerations of government agencies and officials that were responsible for the formulation of the industrial policies for these two industries may provide a reason. But, concerning the persistence of the policy orientation, the answer may not be that simple. Industrial policies have officially been determined by the efforts of the central government to promote industrial development and economic growth. However, the Chinese political system is not

as centralised as it is habitually portrayed as. Different interest groups have posed and are posing a strong influence on the formulation of industrial policies. According to the political economy of regulation, interest groups may lobby with the relevant government authorities for the imposition of government policy to their own benefit. The interest groups include firms, workers, consumers and politicians. The power of an interest group depends on the costs of lobbing and the benefits of manipulating outcomes of policy-making. Firms usually have the strongest power and may successfully lobby for the formulation of government policy to their own benefit – even if this might be to the detriment of the society as a whole, particularly consumers. In addition to the possibly induced welfare losses, according to the Tirole (2000), the lobbing conduct may lead to a substantial waste of scarce resources in rent-seeking behaviour by members of the interest groups. The competitors or potential competitors may also be possible victims.

In China, the final result of drafting an industrial policy was usually the result of balancing different interests of different groups, which were typically represented by different ministries of the government in the decision process. The interest group with the strongest position in this process was usually the incumbent firm. This is a relatively universal phenomenon, but particularly for the East-Asian model of business oriented states (cf. Van Tulder and der Zwart, forthcoming). Furthermore, as suggested in Subsection 6.2.3, higher protection yielded higher profits from price distortion and hence led to greater political bargaining power of entrants. Such bargaining power will be exploited to influence the formulation of industrial policy and pursue further rents. In the process of policy formulation, the interests of the incumbent firms are typically well protected due to the strong bargaining power of them, while the representatives of the interests of consumers and potential entrants were typically absent. Within the incumbents, the large State-owned Enterprises (SOEs), as members of the 'national team' and targets of strong government support, have the strongest influential power for the formulation of the industrial policy. In China, the government departments and SOEs can be considered as different parts of the same state sector. Thus it may be not easy for the government agencies to resist the pressures from SOEs. The newly entered MNCs, with the control of their proprietary assets, are also in a preferential position. In China's passenger car industry, the specific arrangements of International Joint Venture (IJVs) bind the interests of the largest SOEs and the leading MNCs together, further strengthening the bargaining power of them. The persist excess profits gained by MNCs in China's passenger car market on the basis of entry restrictions and trade barriers to protect incumbents can be largely explained by MNCs' common interest and 'strategic' coalition with the leading SOEs, based on their partnership in IJVs.

Special interest groups may occasionally convince public authorities of the need to impose regulatory restrictions even in markets where economies of scale, externalities and other market failures are not sufficiently strong to justify such intervention (ICN, 2002). In China's automotive industry, the scattered industrial structure and the 'overheating' or overcapacity of the industry are usually the arguments used by the incumbents to persuade the government to implement a strict control over market entry. The alleged dispersed industrial structure is in fact highly concentrated considering particular segments (relevant markets) of the automotive sector (see Subsection 6.2.3). The existence of a large number of small assemblers has been largely caused by the protection from high profits and the strict entry control. The problem of overcapacity has been a common phenomenon in the global automotive sector and the overcapacity could be largely reduced if the high price can be reduced to a reasonable level (cf. Carillo *et al*., 2004). Compared with the argument based on the number of firms and the production capacity, the high level of prices and

profits has been convincing evidence of the existence of market power and the lack of competition in the industry. The welfare losses of the society as a whole were significant, but this has long been neglected and the protectionist model of regulation in the name of industrial policy persists. This might be caused by the special consideration of the government given to the strategically important and political sensitive large-sized SOEs with their high significance in employment. This might also be a result of the so-called 'regulatory capture' in which the involved public authorities lose sight of the public interest and protect the privileges of established firms.[1] The captured regulators use their regulatory powers to redistribute rents rather than to drive down costs and benefit consumers and the society at large. When interest groups lobbing for the imposition of government policy to their own benefit, if there is one dominant interest group, there will be regulatory capture. Clearly, in the formulation of industrial policies, large SOEs owned by the central government represent this dominant interest group. They might capture the government agency for the imposition of industrial policy to their own benefit but to the detriment the society as a whole, particularly the consumers. In the electronics and ICT sector, by contrast, a relatively weak position of large SOEs owned by the central government in the industries can be attributed to the avoidance of regulatory capture, which gave rise to a protectionist policy stance.

Potential role of competition policy

In the process of industrial policy formulation in China, the representatives of consumer interests are typically absent. The policy formulated merely concerning the interests of incumbent firms may be anticompetitive and may lead to negative effects on industrial development. Thus competition policy could have an important role to play in China in terms of promoting public awareness of competition issues and building public support for more competition-friendly government policies. Specific interest groups will always seek to influence the design of an industrial policy, which consists of specific measures applicable to specific industries and firms as well as generic measures that are applicable to all industries. In the traditional policy framework, it is natural to think of the development and competitiveness of industries exclusively in terms of firms. However, consumer welfare matters for industrial performance. Therefore policies protecting the interests of consumers are bound to become more prominent. In this sense, competition policy can play a formative role in the formulation of appropriate industrial policies, essentially acting as advocates within the government stressing the merits of market competition and as a representative on behalf of consumers.

8.1.2 FDI, Government Policies and Industrial Development

In the reform era, China's automotive and electronics & ICT industries have attracted a large amount of inward FDI. In both industries, most leading MNCs have intensively engaged in local production. However, the effects of the presence of MNCs on industrial development differed substantially. In the automotive industry, MNCs have dominated the domestic market and allied with the largest SOEs through IJVs, reaping extremely high profits protected by trade barriers and entry restrictions. In addition, the MNCs have been largely capable of controlling their technologies and intellectual property rights, turning China's passenger car industry into one of their production bases but only for serving the

[1] Stigler (1971) and Peltzman (1976) expounded the concept of regulatory capture.

domestic market rather than exporting to the world market. In the passenger car industry, China has failed to attract efficiency-seeking and export-oriented MNC activities, which are crucial to promoting international competitiveness. In many segments of the electronics & ICT industry, contrarily, MNCs have engaged in fierce competition, amongst themselves as well as with domestic players. Their presence did not crowd out but 'crowded in' domestic enterprises – in China's electronics & ICT industry grew up the most internationally competitive Chinese firms, either private owned or semi state-owned. As demonstrated in Chapter 6 and Chapter 7, the contrasting consequences of FDI inflows have been strongly influenced by the different policy environments of these two sectors. Although both industries have been identified as 'pillar industries', different models of industrial policies have been adopted. The different policy environments largely influenced the nature of competition: in the automotive industry, competition has been constrained and the lack of competition facilitated higher prices, lower competitiveness and welfare losses (see Subsection 6.2.3); while the electronics & ICT industry became the arena of global competition in which internationally competitive enterprises compete for both domestic and global markets, which triggered low prices, intensive innovation and rapid growth.

Regulatory approach

There are some generally accepted basic functions of the state, including the production of pubic goods, the redistributive activities and macroeconomic stabilisation (see Subsection 1.5.1 for a detailed discussion). Beyond these basic functions, economic regulation can encompass restrictions on a wide array of firm decisions.[2] The three key decision variables controlled by economic regulation are price, quantity, as well as entry and exit (Viscusi *et al.*, 2000). The two critical variables that regulators are controlling are price and the number of firms; the latter is through restrictions on entry and exit, which are the key determinants of economic efficiency (see Subsection 3.3.1). The theory of economic regulation addresses the questions who benefits from regulation, which industries are most likely to be regulated, and what form regulation will take (Stigler, 1971). Where economies of scale, externalities and market failures are so strong that competition mechanism cannot function well, regulation is imperative. The target of economic regulation in market economies has been mainly industries with natural monopolies or involving big (positive and/or negative) externalities.[3] A review of the regulatory history of the United States reveals that regulation is not strongly correlated with the existence of market failure and potentially competitive industries have also been regulated. Empirical evidence supported the claim that regulation was inherently pro-producer (Jordan, 1972). Supporters of the theory of regulatory capture argued that most industrial regulation was designed to protect incumbents against competition from entrants and had the effect of legalising monopoly power to the detriment of consumer welfare.

Although regulation has been imposed on both natural monopolistic industries and potential competitive industries, it has been generally recognised that, where competitive

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[2] The government regulation relating to the environment and safety is not covered by the concept of 'economic regulation' here.

[3] An industry is a natural monopoly when, at the socially optimal quantity, industry cost is minimised by having only one firm produce. An externality exists when the action of one agent affects the utility or production function of another agency, and the first agent doe not care how his behaviour affect the second agent's welfare. When an externality is present, perfect competition doe not result in an optimal allocation of resources (Viscusi *et al.*, 2000).

markets can work well, they should not be subject to economic regulation, but only to competition law. Avoiding unnecessary regulation is therefore to be desired and it is important to limit regulation to the minimum necessity. The deregulation movement originated in developed economies – where a sufficient provision of public goods is available and the fear of 'underinvestment' is less tangent (cf. Mulder, 2004). The deregulation movement that started in the United States was intended to remove detailed government controls from otherwise competitive markets. Even in some network utilities, previously considered as natural monopolistic industries, incentive regulation and competition have been or are being introduced (Laffont and Tirole, 2000).

In some developing countries and transition economies, the regulation of competitive industries remained relatively significant due to the legacy of the previous development strategies, central planning or the assessment of what was deemed appropriate in relation to the development level of the economy. For instance the role of a well-developed 'civil society' has been considered crucial in many countries to make deregulation a success. In most developing countries civil society is not that well developed. In China, the government intervention in manufacturing industries witnessed a transformation from a system of direct industrial management in line with the central planning to a system more or less consistent with a market economy (see Subsection 2.1.1 for a detailed discussion). Sequential administrative reforms has redefined the role of the government in the economy and substantially reduced government intervention in most manufacturing industries, especially those for consumer products. However, government regulation remained in many industries and some are implemented in the name of industrial policy. With regard to the two critical variables that regulators have controlled, price and the number of firms, the former has been largely liberalised and the latter are still under direct government control in some industries. As government pricing only accounts for a very small percentage in all consumer goods, entry restriction is the central issue of industrial regulation. Entry restrictions, coupled with high trade barriers, largely limited the degree of competition in China's passenger car industry, thus shaping the particular path of industrial development in this 'pillar industry' (see Subsection 6.1.2). The regulatory measures have been implemented in the name of industrial policy.

Industrial policy

It is important to distinguish economic regulation from industrial policy, another form of economic policy that also encompasses influences on a wide array of firm decisions. With regard to industrial policy, market economies diversify from the generally laissez-faire, non-interventionist stance of the United States[4] to the crucial role of government in economic development in Japan and the East Asian NIEs (see Subsection 1.5.1). The main differences between regulation and industrial policy lie in two aspects. First, the aim of regulation is to tackle market failures in which unrestrained competition does not work well, while the aim of industrial policy is to promote the development of specific industries that are considered to be crucial to economic development. Secondly, the means of the two forms of government policies are different – regulation is supported by the government power to coerce, or the threat of sanction, while industrial policy is implemented by providing incentives to firms and thus to direct resource allocation to desired economic

[4] The United States has always had a *de facto* industrial policy through its defence budget. Defence orientated industrial policies, however, lead to other forms of regulatory capture – witnessing the plea of the then President of the United States Eisenhower against the growing power and influence of the Military Industrial Complex.

activities. Sometimes the boundary between regulation and industrial policy is not very clear when governments use regulatory means to realise the alleged purpose of promoting industrial development. Thus regulatory measures should be distinguished from the incentives in the implementation of industrial policies. The necessity of regulatory measures needs careful reconsideration, while the incentives aiming at guiding resource allocation towards specific strategic sectors, particularly if private decisions fail to react, is more competitive neutral. Furthermore, the effectiveness of these incentives depends on competitive conditions in markets.

The experience of Japan and the East Asian NIEs shows that industrial policies can play a crucial role in promoting industrial development, economic growth and social welfare, especially for developing countries. Ruigrok and Van Tulder (1995) demonstrated that virtually all of the world's 100 largest companies in their history have benefit decisively from various forms of government trade or industrial policies. In the late 1980s, as noted in Subsection 1.4.2, the theory of the developmental state emphasised that governments played a central role in the economic development of East Asian economies. Industrial policy has been asserted the central factor behind the rapid industrialisation of East Asian economies, among which Japan, South Korea and Taiwan are typical examples. The development of a large number of Chinese industries further proved the effectiveness of industrial policy in promoting industrial development. However, industrial policy instruments are by no means perfect. In particular specific industrial policy measures contain higher levels of risk and often feed allegations that a better economic performance would be resulted had no policy intervention or other policy measures imposed. The development path of the passenger car industry highlights some risks of industrial policy. First, unnecessary regulation may be imposed in the name of industrial policy. Secondly, industrial policy measures may hinder the effective operation of the competition mechanism. Thirdly, selective support towards a limited number of firms, sometimes inefficient ones, may lead to reverse selection. Fourthly, the focus on the development of large enterprises and the imminent danger of regulatory capture may lead to the neglect of consumer interests, hence resulting in welfare losses for the society at large. Fifthly, positive effects for industrial development from inward FDI and private entry may be hampered or even reversed by specific regulatory measures or an anticompetitive policy framework, whereas the possible negative effects of inward FDI cannot be addressed as well in a manner that does not substitute domestic regulatory capture by foreign one.[5] To tackle these problems, simply substitute industrial policies with a competition policy is not the congruent solution. A more practical choice is to complement industrial policies with a competition policy, making full advantage of the effectiveness of industrial policies in directing resource allocation and promoting competitiveness, while trying to avoid the risks of industrial policies through the introduction of competition policy.

The Japanese and South Korean experience has confirmed the importance of industrial policy while questioned the relevance of competition policy for economic growth (see Subsection 2.2.4). The key question here is, when implementing an industrial policy, whether competitive market condition can be ensured without a *de facto* competition policy. In fact, the Japanese and South Korean experience does not challenge the relevance of competition policy, but demonstrates that a well-designed industrial policy could promote the competitiveness of firms while ensuring the functioning of competitive

[5] In the Dependencia school of development economics also referred to as the existence of a 'comprador bourgeoisie' – a domestic elite that serves the interests of foreign firms more than of local interests.

markets with out the introduction of a *de facto* competition policy. The problem for China's industrial policy, as highlighted by the analysis of passenger car industry, is its inability to ensure competitive conditions in markets due to a specific combination of restrictive and regulatory policy measures, mainly reflected by entry restrictions. Although the leading East-Asian economies did not shy away from imposing substantial non-tariff impediments to foreign entry, the problem of China's passenger car industry is associated with the specific economic and industrial context of China. The problem may be worsened by the entry of MNCs within an anticompetitive policy framework. The case of the passenger car industry shows that the lack of competition largely caused by the entry restriction may have significant negative consequences with the strong presence of MNCs. The Kodak case, as discussed in Subsection 5.2.4, also highlights the risk of market dominance granted by the government in the specific context of China's transition economy in which the central government may even directly determine the basic structure of an industry.

A comprehensive policy framework

The FDI impact on China's industrial development depends not only on increasing inward FDI – and the technology, managerial know-how and market access associated with capital inflows – but also on an effective policy framework to harness FDI and thus, in combination with other forces, to promote industrial development. Different policies play supplementary roles in the framework. In Subsection 4.4.3, the positioning of different policies within this framework has been preliminarily discussed. Concerning the multiple aims of the policy framework, Table 8-4 shows the effects of different policies in various aspects. The direct effects of industrial policy, S&T policy, trade policy, FDI policy and competition policy are depicted in this table. However, these government policies usually have intertwined influences in reality. For instance, competition policy may constrain the development of some specific firms that engaged in anticompetitive practices, while improving the market effectiveness and social welfare. Industrial policy and FDI policy intertwine with each other in terms of the industrial guidance of FDI, directing resource allocation towards specific sectors (see Subsection 5.1.3). Inward FDI, promoted by a proactive FDI policy, may both crowd out domestic firms in the short run and 'crowd in' domestic firms through spillovers and linkage in the long run.

Table 8-4 A policy framework for the promotion of industrial development

Policy	*Market effectiveness*	*Enterprise development*	
		Domestic firms	*Foreign firms*
Industrial policy		↑*	
S&T policy		↑*	
Trade policy	↑	↑	↑
FDI policy	↑	↑ or↓	↑
Competition policy	↑		

Note: * Industrial policy and S&T policy ideally do not distinguish between foreign and domestic firms. But, in most countries, they are mainly directed at domestic firms.

Promoting the development of enterprises is the key factor in driving industrial development in a market economy, thus it should be the central concern of an effective policy framework to promote industrial advancement. By attracting foreign firms on the basis of a proactive FDI policy, the government can fulfil the aim of enterprises development by introducing an important constructive force into the domestic industry. Innovation (or S&T) policy can help to promote the technical efficiency of firms in order to boost their competitiveness. The capability to export can simply be used to evaluate the

international competitiveness of firms and the relative size of imports and exports is an explicit signal of the competitiveness of the industry as a whole. However, that does not mean the simple solution of limiting import while promoting export is an optimal solution, because relevant trade policies can highly influence the degree of competition in the domestic industry, which in turn will influence the competitiveness of firms. Subjecting domestic firms to international competition is generally considered to be a crucial concern to promote the development of them – certainly when the economy is integrated in the world economy and abides the rules of the WTO. One of the principal outcomes stemming from the removal of trade barriers is to sharpen competitive pressure (Allen *et al.*, 1998). The 'imports-as-competitive-discipline' hypothesis in the industrial organisation literature argues that international competition from import constrains the ability of domestic producers to engage in anticompetitive practices, which would otherwise reduce welfare (see Subsection 3.4.3). This is not only a theoretical argument, but also supported by strong empirical evidence (see Cadot *et al.*, 2000). Reductions in trade barriers can sharply increase competitive pressures, which in turn have the potential to generate substantial welfare gains (Baldwin and Venables, 1995). As stressed by Levinsohn (1993), trade liberalisation, under certain circumstance, increases competitiveness on the domestic market.

Industrial policy is central for the promotion of enterprise development. Related to the concern of enterprise development, a controversial issue is whether the development of domestic owned firms should be selectively encouraged. Ruigrok and Van Tulder (1995) argued that the nationality of companies continues to be a decisive factor in the supposedly 'borderless' economy. A non-preferential and industry-oriented policy is optimal in an ideal world, because in most case the interests of foreign firms and host countries are consistent. However, due to the potential divergences between the private interests of foreign investors and the public interests of the host country, as well as some strategic concerns, the promotion of the development of domestic firms may be a legitimate consideration. In fact, in China, industrial policy and S&T policy provide incentives principally to domestic firms, particularly (large) SOEs. Only in terms of industrial guidance, foreign firms are subject to industrial policy. The general situation is that SOEs are supported by a wide array of industrial policy measures, while Foreign Invested Enterprises (FIEs) receive preferential treatment mainly through tax and other incentives to attract FDI. In addition to industrial policy, FDI and trade policies are instrumental in the promotion of the development of domestic firms that are not only sufficient to supply the domestic markets but also competitive to reach the global market. The role of export promotion is crucial. Import substitution can also play a major role in the early phase of industrial development, particularly important for the birth of domestic firms. Here 'import substitution' refers to the various measures to assisting domestic firms rather than the traditional trade regime that relies on tariffs and quotas on trade to restrict import and protect insufficient domestic firms.

The precondition of firm development is that market, in which firms compete with each other, can operate efficiently. Ensuring that the industries and markets in which MNCs participate operate efficiently should be one of the central concerns of the policy framework. In addition to the appropriate consideration of the development of domestic firms, a commitment to free trade can contribute to ensure competitive markets. By introducing new competitive force into the markets, proactive FDI policy also contributes to the competitiveness of domestic market. Despite the procompetitive effects of trade and FDI policies, the aims of these policies focus on international trade and promoting domestic competition has not been an explicit objective. On the other hand, without

monitoring the degree of competition in domestic industries, FDI policies may neglect the potential negative effects of FDI when foreign firms crowd out or acquire domestic firms and engaged in anticompetitive practices. Similarly, without a concern on competition and consumer welfare, industrial policy may hinder the competition mechanism, especially when the selective support is firm- rather than industry-oriented. Therefore, competition policy should be a necessary part of an overall policy framework to ensure that inward FDI, combined with other forces, plays a positive role in promoting industrial, economic and social development. Although the promotion and protection of market competition can be realised without a formal competition policy as was previously the case in a large number of Chinese industries, introducing such a policy would help avoid risks and uncertainty as well as protect the functioning of competitive markets in a more efficient and institutionalised manner.

Supplementing industrial policy with competition policy

Both substitutive and supplementary relationships exist between competition and industrial policy. The supplementary relationship is dominant in promoting industrial development (see Table 8-4). These two policies have normally been put into contradiction by scholars or policy makers following the neoclassical tradition, which generally considers industrial policy as a form of government intervention that constrains market competition. In the last decades, in conjunction with economic liberalisation, more and more countries have come to recognise the value of competition as a powerful tool for spurring innovation and economic growth and the importance of a legal framework to safeguard market disciplines and to tackle market failures. Associated with this trend, the influences of industrial policy are far less evident than they were even a decade ago. In the preceding discussion, we distinguish the regulatory measures from the incentives in the implementation of industrial policy and argue that the necessity of regulatory measures should be carefully reconsidered. But the general effectiveness of industrial policy in promoting the development of specific strategic sectors has been supported by the past experience of Japan and several East Asian NIEs, as well as the more recent experience of some Chinese industries. Thus with necessary updates, industrial policies aiming at a selective support for specific 'pillar industries' should be further pursued in the future. However, several associated problems appear perhaps even sharper than in the past in China. First, regulatory measures should be further eliminated from the pool of policy instruments. Although entry control and screening should not be removed overnight, the negative consequences of strict entry restrictions demonstrate that entry should be permitted to ensure a certain degree of competition in markets. Secondly, the problem of possible regulation capture should be avoided by enforcing more 'checks and balances' in policy formulations, by considering the interests of consumers rather than merely those of firms and by introducing a specific advocate within the government on behalf of consumers and potential entrants. Thirdly, competition should be one of the central concerns in the redesign of an industrial policy. A wide range of issues that could influence the nature of competition in an industry should be considered. A number of policy measures, including policies directed at trade, industry and investment, should be integrated in policy considerations to make sure their implementation will not hinder effective competition. The open competitive model of industrial policy highlighted by the comparative analysis of the automotive and electronics & ICT industries provides simple principles for the policy maker – keep the market competitive is the precondition or an integral element of an effective industrial policy. Only on the basis of this, prescience on which sectors to support and effective incentives to direct resources allocating to them can lead to desired outcomes.

The degree of competition in a specific industry is influenced by a wide rang of issues, including firm rivalries and government policies (see Subsection 2.2.3). As a particular policy instrument safeguarding competition, competition policy tackles potential restrictions to competition, principally private restraints, and promotes economic efficiency and consumer welfare. In addition to competition policy, a broader set of factors may influence the nature of competition in industries, thus countries may have been able to maintain a considerable degree of market competition despite the absence of a *de jure* competition policy. If there is an effective *de facto* competition maintenance mechanism, are there needs to replace or supplement it with a competition policy? Many institutional changes in China's economic transition aimed to inject competition into the economy (see Section 2.1). To some extent, the process of transition is a process of introducing competition – domestic and international – into the economic system. Competition among firms taken place in markets and industries has been crucial to the 'Chinese miracle'. The Chinese experience demonstrates that a commitment to competitive markets, rather than regulatory approaches, yields major benefits for economic welfare and development. However, some industries remain relatively immune to the baptism of competition due – amongst others – to anticompetitive government policies, quite different from developed countries where threats toward competition are mainly private restrictions. Under this circumstance, if the government intends to develop, encourage or facilitate competition, how should it act? The consequence of the industrial policy for the automotive sector highlights these problems and necessitates a formal competition policy. Furthermore, the highly probable anticompetitive effects of MNC presence and foreign Merger and Acquisitions (M&As) discussed in Subsection 5.2.4 and Subsection 5.2.5 calls for a competition policy to ensure the positive effects of inward FDI.

8.2 International Business and Competition Issues: International Policy Challenges

When China begins to establish a formal competition policy regime on the basis of previous transitional institutional arrangements, it faces a challenge to build up institutions on the basis of both domestic and international considerations. First of all, the design of a national competition policy regime should take into account domestic conditions, particularly those at the industry level. This is the focus of the discussion in Section 8.1, which bases its argument on the conclusions of the empirical studies in Part III. In the design of a competition policy regime, in addition, international cooperation may play a vital role because it might support the building of domestic market-supporting institutions and contribute to international harmonisation and/or coordination of competition, FDI and trade policy regimes (see Subsection 3.4.5). The proliferation and diversification of competition policy, coupled with the rapid economic internationalisation, has presented a challenge to governments as well as firms. This is the focus of this section. The relationship between competition policy and the multilateral trading system has been subject to much debate in academic literature and international organisations (see Subsection 3.4.3). In recent years, increasing attention was granted to the linkages between economic liberalisation and competition policy. The central challenge to national governments stems from the disjunction between national laws and international markets. How to coordinate seemly 'borderless' business activities within the existing legal regimes governed by sovereign nations? In the field of trade law, the measures of each country are restricted by international agreements and are under the control of intergovernmental

organisations, in particular under the WTO regime. In the field of competition policy, such an international regime is lacking and the domestic laws of each state regulate private restraints of trade in markets.[6] Expanding international businesses both in China and around the world give rise to competition issues for the Chinese government to address. Most international business activities have been associated with FDI. For China, inward FDI has become an integral element of its development strategy, while outward FDI has also increased rapidly. According to the United Nations Conference on Trade and Development (UNCTAD), China has already become an important capital exporter. It can be predicted that, in the near future, international competition issues will become a day-to-day problem for the Chinese government as well as for Chinese firms.

8.2.1 International Business and Competition Policy: Conflicts and Challenges

As business activities are becoming more internationalised, they lead to increasing international problems with regard to the competition issue. Due to the increasing global character of business practices, the competition issue has become an important element of international politics and economic internationalisation. It appears natural that the competition policies need to be internationalised as well. Competition laws have been proliferated rapidly since the 1990s (see Subsection 2.2.4). There are now over 90 different competition laws installed, with more than 20 in the making, with differing procedural and substantive provisions. Competition policies differ from nation to nation and the proliferation of competition policies has not meant a uniformity of substantial rules or institutional approaches around the world. The proliferation and diversification of competition policy regimes, coupled with the rapid internationalisation of commercial activities, presents a serious challenge to the competition authorities as well as to the business community. For competition agencies, they will face a mounting number of cases involving foreign firms. They increasingly have to address economic decisions that are not confined to their national territories. A major challenge lies in the risk of inconsistent outcomes including discordant remedies being imposed by different competition authorities. For the business community, firms will face the uncertainty of multi-jurisdictional competition policy enforcement and the higher transaction cost that may arise when firm's business practices have to be reviewed in various jurisdictions. There are interfaces between international business and all the three areas of competition policy as discussed in Subsection 3.2.2. First, there have been mounting numbers of cross-border mergers involving companies that had international operations and thus triggering merger review in multiple jurisdictions. Second, there are a large number of price fixing conspiracies that were international in scope. Third, competition authorities have become involved in investigating and prosecuting dominant position abuses where the target of the investigation engages in similar activities in multiple jurisdictions.

In the field of trade law, the measures of each state are restricted by international agreements, in particular under the GATT/WTO regime. In the field of competition law, such an international regime is lacking and the domestic laws of each state regulate private restraints of trade in the relevant markets. Thus jurisdictional conflicts in competition policy enforcement have emerged in the last decades, mostly between the United States and other developed countries. Historically, international conflicts over the enforcement of

[6] See ICPAC (2000).

competition law were caused mostly by the so-called extraterritorial enforcement of US antitrust laws on the basis of the effects doctrine. In response, a number of countries, such as Japan and the United Kingdom, insisted the territorial principle and issued diplomatic protests or enacted blocking legislation. The recent decade also witnessed the expanding scope of the extraterritorial application of competition laws in other jurisdictions, such as the European Union. Among the member states of the European Union, the competition laws of a number of countries have specific provisions incorporating the effects doctrine. According to the ICPAC (2000), increased interaction between trade and competition has brought about new dimensions in international conflicts over the extraterritorial enforcement of competition law. The extraterritorial enforcement of US antitrust laws for the purpose to protect US exporters' interests has become another source of diplomatic friction. In 1992, a new policy change by the DOJ brook ground for the prosecution of foreign defendants for taking steps outside the United States that violated US antitrust laws in a way that harmed US exporters, not just importers. Pilkington, a British company, became the initial target of this policy change.

Cross-border M&As

Cross-border M&A is an important mode of FDI. The world has experienced an unprecedented level of merger activity, with cross-border M&As in 2000 at an all-time high (see Subsection 2.3.1). The number of transactions notified to the competition authorities has boomed likewise. For instance, the number of transactions notified to the European Commission more than doubled between 1991 and 1996. From 1997 to 2000, it grew annually by 20 to 30 percent. As the volume of cross-border M&A activities expanded, the number of jurisdictions around the world with merger control systems rapidly increased as well. Over 60 jurisdictions have hitherto adopted merger review regimes. Thus it is increasingly likely that cross-border mergers may be reviewed by multiple competition authorities. Merging firms with international business operations potentially should report their sales, assets, subsidiaries and market shares in more than 60 jurisdictions to determine whether notifications to the competition authorities in those jurisdictions are necessary. The volume of law that firms undertaking mergers must now consider and the growing tendency of nations to apply their laws to offshore mergers present challenges for the merging firms. This also presents challenges for the competition authorities. These challenges come both from dealing with heightened uncertainty and increased transaction costs and from ensuring consistent outcomes and compatible remedies. Different substantive provisions will give rise to diverging evaluation on the nature of a transaction, incompatible remedies, and, therefore, international friction (ICPAC, 2000). These challenges can be addressed by facilitating, where possible, substantive harmonisation and convergence among merger review regimes (ICPAC, 2000). There are at least three concrete areas, as suggested by the International Competition Policy Advisory Committee (ICPAC)[7], where nations can take steps to minimise transaction costs and conflicts: 1) facilitating greater transparency; 2) developing disciplines to guide the review of mergers with significant transnational or spillover effects;

[7] ICPAC is an *ad hoc* advisory committee on international competition policy established by the US Attorney General in November 1997 'to address the global antitrust problems of the 21st Century'. The previous Assistant Attorney General Joel Klein endorsed the recommendation by the ICPAC that the United States seek to harmonise merger reporting requirements so as to facilitate the review, approval, or where necessary, opposition of authorities to mergers invoking the jurisdiction of multiple countries. Following the completion of its work, the Commission was officially disbanded in June 2000. ICPAC (2000) therefore is its final report.

3) and continuing to enhance bilateral cooperation. In addition, the ICPAC recommended the 'most integrated approach' – work sharing, in which the enforcement efforts of one agency are likely to be sufficient to remedy the antitrust concerns of other jurisdictions, to reduce duplication and develop more seamless merger review systems internationally. These challenges can also be addressed by rationalising the merger review process through targeted reforms by different competition agencies.

Merger control is the area of competition policy where the international dimension is the strongest. About two thirds of the EU-US joint involvements in competition policy cases have been associated with merger control. An increasing share of the European Commission's recent merger cases has been handled with the cooperation of US competition authorities.[8] From the beginning of the European merger control policy in 1990 until the end of February 2002, in totally 1950 notified cases, 435 transactions involved at least one US company.[9] There were a climbing number of cross-border mega mergers involving companies that have international operations thus triggered antitrust review in multiple jurisdictions. Some important cases include Boeing and McDonnell-Douglas, British Telecom and MCI (and AT&T), Exxon and Mobile, and MCI and Worldcom. Although there has rarely been a direct conflict between competition authorities in terms of their final decision, there have been instances where the final adjudications have been different. US companies have become the primary target for the extraterritorial application of the competition laws of other jurisdictions, particularly the European Union. In 1997, for instance, the merger between Mc Donnell-Douglas and Boeing led to an apparent conflict between US and EU antitrust authorities. The merger was allowed by US authorities while European Commission expressed serious concerns. The conflict escalated and a trade war was avoided at the last minute when the parties accepted to modify their operation to satisfy the demands from the European Commission. In July 2001, the European Commission opposed the proposed General Electric and Honeywell merger – a deal cleared by the US Department of Justice (DOJ) with selected divestitures. The events surrounding the General Electric-Honeywell merger further highlighted the attention focusing on the potential for divergent outcomes when proposed transactions are reviewed by multiple agencies.

International cartels

The problem of international cartels has been increasingly recognised as an important global issue (WTO, 1997). Although there has been no comprehensive evidence about the scope and incidence of international cartels, there is no doubt that the competition authorities' antitrust enforcement efforts against international cartels have been intensified. During the 1990s the European Commission and the DOJ together prosecuted over forty cartels whose effects went beyond national borders. These private international cartels were found in a wide range of products, including citric acid, vitamins, newsprint, fax paper, shipping and chemicals (Evenett *et al.*, 2001). Hard-core cartels have been not only prohibited in most developed countries but also condemned in several international forums such as the United Nations and the OECD. For many decades, however, the United States stood almost alone in the world in its commitment to antitrust enforcement, especially

[8] Schaub, A. (2000)' Assessing International Mergers: the Commission's Approach', Speech at the EC Merger Control 10th Anniversary Conference, Brussels, September 2000.

[9] Schaub, A. (2002) 'Cooperation in competition policy enforcement between the EU and the US and new concepts evolving at the WTO and the International Competition Network', Speech at Brussels, April 2002.

when the defendants were located in other countries (ICPAC, 2000). Since the early 1990s, the number and importance of successful international cartel prosecutions brought by the DOJ have increased significantly. The DOJ has made international antitrust enforcement and cooperation a priority since 1993. It has given top priority to enforcement against international cartels since 1995. This change was due to a better usage of the fine spectrum for companies and their responsible top managers. Another important factor was the reform of the corporate leniency program in 1993 (see Subsection 8.3.2 for a detailed discussion). In the 1990s the DOJ has successful prosecuted almost 20 international cartels (Table 8-5), charging more than 80 corporate and 60 individual defendants. Approximately 25 percent of the criminal antitrust cases filed by the DOJ since 1990 were international in scope (ICPAC, 2000). Historical level of fines has been imposed in cartel cases. In 1996, Archer Daniels Midland (ADM), a US firm, agreed to pay US$ 100 million for the impact that its role had on the US market in both the Lysine and Citric Acid cartels. Since 1997, international cartel prosecutions have accounted for over 90 percent of the fines imposed in criminal antitrust cases annually. US investigations into international cartels have detected and punished a geographically diverse group of participants located in more than 20 different countries.

Table 8-5 US prosecutions in international cartels, 1990-1999

Fiscal year	*International cartel prosecutions*
1991	Federal Dam Repair Project
1992	Bronze & Copper Flake
	Moving Service
1993	Aircraft Purchase at Bankruptcy Auctions
1994	Aluminum Phosphide
	Industrial Diamonds
	Disposable Plastic Dinnerware
1995	Lysine (Food and Feed Additives)
	Citric Acid (Food and Feed Additives)
	Commodity Ferrosilicon Products
	Rare Banknotes Auction
1996	Tampico Fibber
1997	Sodium Gluconate
1998	Graphite Electrodes
	Marine Construction
	Marine Transportation
	Sorbates
	Vitamins
1999	Maltol
	Sodium Erythorbates
	Cable Stay Bridges
	Magazines

Source: ICPAC (2000).

The European Commission has also developed a record of anti-cartel enforcement and has prosecuted more than 20 cartels since the early 1990s. Although most of these cases are European internal rather than international, the European Union began to prosecute cartels with the scope beyond its borders. For example, the European Commission issued a decision in December 1999 in the Seamless Steel Tubes case that involved four firms from member states and four Japanese firms. Moreover, the European Commission has also investigated some of the same international cartels as prosecuted in the United States and Canada, including the Graphite Electrodes and Vitamins conspiracies. Other jurisdictions began to investigate and take actions against cartels include Australia, Canada, Israel,

Japan and some EU member states such as Germany and the United Kingdom.

Abuses of dominant positions with international scope

Both EU and US competition authorities have become involved in investigating and prosecuting abuses of dominant positions where the target of the investigation conducts business and engages in similar activities in both jurisdictions (Litan and Shapiro, 2000). A prominent example is the first Microsoft case in which a joint investigation was conducted and a joint settlement was reached. Another example is the initiation of an investigation of Intel by the European Commission in 2001 after the Federal Trade Commission (FTC) had closed its own investigation after a settlement was reached with Intel. The EU investigation was proceeding without much US involvement and cooperation.

The Microsoft antitrust trial was a symbol of the activist stance on competition policy during the Clinton administration. In the second Microsoft case, according to the US antitrust authorities, evidence supported that Microsoft has a monopoly over desktop operating systems, that the monopoly is protected by the so-called 'applications barrier to entry', and that Microsoft acted to eliminate the threat to its monopoly by engaging in a series of practices with the intent and effect of limiting the distribution and use of competitors' software. Although Microsoft challenged each of the government's propositions and counters with those of its own, in May 2000 a dramatic court order (reversed on appeal in June 2001) prescribed that Microsoft be broken up. In the first Microsoft case in 1993 and 1994, Microsoft faced a joint investigation by the US and EU competition authorities. In this investigation, the US and EU officials cooperate in the negotiations with Microsoft that led to the first consent decree. Due to the company's reluctant to receive potentially inconsistent rulings from both jurisdictions, a joint settlement was given (Litan, 2000). In March 2004, a new Microsoft case proceeded by the European Commission has led to a proposed fine of €497 million on Microsoft for abusing its Window monopoly and thwarting competition. After years of investigation and a failure to reach a settlement between Microsoft and the European Commission, this proposed ruling was given and a lengthy appeal is bound to follow.[10] In China, a recent report from the State Administration for Industry and Commerce (SAIC) explicitly mentioned Microsoft as an example of market dominance.

8.2.2 International Competition Policy: Solutions

As nations define and implement competition policy differently, fundamental asymmetries across different jurisdictions exist and imply the effective enforcement of national competition policy rules would be insufficient. According to the former US Assistant Attorney General Joel Klein, the advance of globalisation in the years to come will only enhance the scope for conflict; further integration of antitrust proceedings across jurisdictions will be necessary.[11] Similar remarks have been put forward by the EU Commissioner for Competition Policy Mario Monti, admitting that the increasing internationalisation of the economy creates very important challenges to competition authorities around the world.[12] Efforts are made to solve or reduce international conflicts

[10] See Richard Waters, 'Microsoft versus Monti: how the challenges to the long reign of Windows are growing in Europe and beyond', *Financial Times*, March 22, 2004.

[11] Klein, J., (2000) 'Time for a global competition initiative?', Mimeo, DOJ, Washington, DC.

[12] Monti, M. (2000) 'European competition policy for the 21st Century', Speech to the Fordham Corporate Law

over the extraterritorial enforcement of competition law. The bilateral approach is currently considered the most feasible. Nevertheless, multilateral rules are required in some instances, which pursue at least greater convergence across competition policy regimes. To move towards the goal of convergence, a multilateral competition agreement, such as that proposed by the Havana Charter, has been advocated. But substantial and sustained differences in national policies, political institutions and systems of corporate governance suggest that a global competition policy regime can only be an ideal long-term prospect.

Bilateral cooperation

Where competition investigations involve multiple jurisdictions it becomes increasingly necessary for the national authorities to cooperate with their counterparts in other jurisdictions. Bilateral competition policy cooperation agreements are instruments that the competition authorities use to expand ties with one another and to improve cooperation and coordination in antitrust enforcement matters (ICPAC, 2000). The OECD went on proposing bilateral cooperation since the 1960s (OECD, 1995). Cooperation among competition authorities is meant to reduce the scope for conflict by sharing information, coordinating procedures, or to converge on substantive issues. The cooperation can be procedural by, for instance, sharing information and simplifying filing requirements. The second aspect of bilateral cooperation is convergence on substantive issues, which is perhaps the most difficult issue in international competition policy coordination. For merger control, for instance, there are three areas of substantive issues in the arena of merger control: 1) market definition, 2) assessment of competitive effects, and 3) appropriateness of remedies.[13]

Formal and informal bilateral arrangements have helped to introduce, deepen and regularise the framework of the enforcement cooperation between competition authorities. Competition authorities have entered into a number of bilateral cooperation agreements with their counterparts in other jurisdictions. For example, the United States is currently a party to bilateral competition policy cooperation arrangements with some jurisdictions: the European Union, Australia, Brazil, Canada, Germany, Israel, Mexico and Japan. The bilateral competition policy cooperation agreements reflect two themes: enforcement cooperation and the avoidance or management of conflicts. The bilateral agreements obligates the parties to notify the other of a pending investigation, contemplates the sharing of information about planned actions that may affect the interests of the other party, and outlines efforts to cooperate in investigations (Litan and Shapiro, 2001). None of these agreements, however, overrides domestic laws that prohibit the sharing of confidential information. The United States does have one other agreement with Canada – a 'Mutual Legal Assistance Treaty' (MLAT) signed in 1990 – that allows the sharing of information obtained in criminal investigations that otherwise might be confidential. The DOJ successfully persuaded the Congress to authorise US antitrust agencies to enter into bilateral MLATs to share otherwise confidential information in civil cases. And in 1999, the Unites States entered into its first bilateral antitrust agreement designed specifically to permit the exchange of confidential information with Australia. The EU has also negotiated bilateral agreements with several countries, such as the United States, Canada, Israel, Russia, Japan and many Central and Eastern European countries.

Given the relatively heavy volume of mergers and other investigations involving joint

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Institute, New York, October 20th, 2000.

[13] See the bilateral agreement between the United States and the European Union.

investigations between the United States and the European Union, much of the cooperative activity of the US and EU competition authorities were with their transatlantic counterparts (Litan and Shapiro, 2001). Thus a prominent example of bilateral agreement is that between the United States and the European Union. Both sides had already realised in the early 1990s that an efficient competition policy is not possible without cooperation between the competent authorities. Therefore they signed two far-reaching cooperation agreements during the 1990s. According to the antitrust authorities, the extensive and frequent interactions between competition agencies has led to substantial benefits since the agreement came into force in 1995.[14] In the period 1995-1998, this agreement gave rise to contacts on over 200 competition policy cases.[15] Under the EU-US agreement, a majority of these cases has been in the area of merger control (see Table 8-6). Table 8-6 also shows that the bilateral cooperation on competition policy between the United States and the European Union has become more important throughout the 1990s. The number of cases has been substantially increased on the EU side, while notifications from the US side have been stable. In terms of merger cases, EU notifications have climbed sharply from 11 cases in 1992 to 59 cases in 1999. The 1998 supplement to the early agreement between the United States and the European Union was another important milestone in international competition policy cooperation. Given the need for convergence in merger control, Directorates-General for competition (DG Competition), the FTC and the DOJ created in 1999 the EU/US Merger Working Group whose role is to enhance transatlantic cooperation in 'global mergers'. The US and the EU competition authorities cooperate to avoid conflicts, with perhaps the notable exception of the Boeing-McDonnell Douglas case in 1997 and General Electric-Honeywell case in 2001, as discussed in Subsection 8.2.1.

Table 8-6 Number of notifications under the EU-US agreement, 1992-1999

Year	*EU notification*	*US notification*			*Merger notification*		
		FTC	*DOJ*	*Total US*	*EU*	*US*	*Total*
1992	26	20	20	40	11	31	42
1993	44	22	18	40	20	20	40
1994	29	16	19	35	18	20	38
1995	42	14	21	35	31	18	49
1996	48	20	18	38	35	27	62
1997	42	12	24	36	30	20	50
1998	52	22	24	46	43	39	82
1999	70	26	23	49	59	39	98

Source: European Commission.

Global (multilateral) solutions

An increasing number of bilateral cooperative relationships have been established between competition authorities in different jurisdictions. But with more than 90 countries adopting competition policies, bilateral cooperation has demonstrated its limitations and the efficiency of the bilateral approach has been questioned. The former Assistant Attorney-General of the DOJ Joel Klein has stated that bilateral cooperation is an essential template but is insufficient to cope with present and future challenges posed by global mergers.[16] In addition, to build substantial cooperative relationship with all of its

[14] See, for instance, Monti (2000) and Schaub (2000).
[15] According to European Commission (1999).
[16] *EC Competition Policy Newsletter*, No. 3, October 2000.

counterparts around the world is virtually impossible for antitrust agency in one jurisdiction. Therefore a multilateral agreement on competition is being called for. The possibility of a multilateral agreement on competition has given rise to a recent literature[17] on the possible need and implications of such an agreement.[18] Some even advocate a multilateral competition agency that would take over mandates from national authorities. However, there have been diverging attitudes between jurisdictions as to the appropriate institutional arrangements. While the European Union has been proposing a multilateral framework for competition as part of the WTO, the European officials faced the resistance of the US competition authorities to add international competition policy to the list of issues to be negotiated under the auspices of the WTO.

In the absence of a specialised global competition organisation and in view of the intrinsic relationship between trade and competition policy as suggested in Subsection 3.4.3, the WTO is considered by many as the institution most suitable to house a multilateral framework for competition. The WTO has the advantages of a broad membership and a tradition of enforcing binding rules. The earliest attempt of multilateral harmonisation of competition rules in the multilateral trading system antedates the Havana Charter in the 1940s. The first effort to bring competition policy issue into the WTO was taken at the Ministerial Meeting in Singapore in 1996, when a Working Group on 'The Interaction between Trade and Competition Policy' was established. Since the 1996 Singapore Ministerial Conference, increasing attention has been granted to the linkages between trade liberalisation and competition policy. The European Commission attempted to persuade member countries of the merits of a multilateral agreement on competition in the WTO.[19] The US side favoured the so-called 'Global Competition Initiative', which has been proposed by the ICPAC. In particular, the final ICPAC report concluded that the existing multilateral organisations are not equipped to handle some competition conflicts between nations (ICPAC, 2000). Instead the ICPAC proposed a 'less bureaucratic' institutional structure. In 2001 a fundamental shift in the US position took place. The Bush administration clarified a number of important issues regarding European Union's proposals for international competition policy. As a result, the United States adopted a positive stance on the envisaged multilateral agreement on competition in the WTO and supported the text drafted in Doha. The future of a multilateral framework for competition within the WTO was discussed during the Doha Ministerial Conference. All parties that signed the Doha declaration recognise for the first time that there is a valid case for the WTO to negotiate and conclude a 'Multilateral Agreement on Trade and Competition'. The negotiation of a multilateral agreement on competition in the WTO may promote the adoption and enforcement of domestic competition regimes and will disseminate competition culture, enhance cooperation between competition authorities and facilitate the effective combating of anticompetitive practices.[20]

Another development in multilateral cooperation in the competition policy area is the International Competition Network (ICN). The ICN is a project-oriented and consensus based organisation. Its membership is open to national and multinational competition

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[17] See e.g. Head and Ries (1997), Horn and Levinsohn (1999), Bacchetta *et al.* (1997), Fox and Ordover (1997), Bliss (1996) Mattoo and Subramanian (1997) and Richardson (1996).

[18] See Bilal and Olarreaga (1998b) for a critical review of the arguments in favour of an international approach to competition rules.

[19] Monti, M. (2002) 'A global competition policy?', Speech on the European Competition Day, Copenhagen, September 17, 2002.

[20] See Schaub (2002).

agencies responsible for the enforcement of competition laws. Representatives from the private sector, academia and other international organisations work with ICN members to produce best practice proposals to bring about a 'soft convergence' between the different authorities. The proposals are non-binding, but once adopted by the ICN jurisdictions may wish to consider incorporating them into their domestic legal frameworks and practices. Different from the WTO, which represents an initiative aimed at establishing a multilateral framework for competition characterised by binding rules, the ICN is a more 'soft convergence' forum. Therefore, the members of ICN are talking about the development of 'principles' and 'best practices' designed to foster a greater degree of convergence, information sharing and cooperation. The concept of establishing such a new multilateral forum for competition policy experts and officials was advanced by the ICPAC. About 75 competition agencies have hitherto become members, but the ICN also includes private sector experts and practitioners in its various working groups and meetings. The ICN has focused on two main areas, multi-jurisdictional merger control and the role of competition advocacy.

Regional (multinational) solutions

The recent decade has witnessed the deepening and widening of the European Union, the creation of the NAFTA, among other efforts of regionalisation (cf. Muller, 2004). Rising regionalism provides additional incentives for the adoption of a common approach to competition and reinforces the arguments in favour of a common competition policy. Both an inter-governmental approach and a supra-national approach may be adopted. There is a strong case for the introduction of a regional competition authority within regional integrating areas. A common competition policy helps to the realisation of an internal common market, in particular to insure the free movement of goods and services within the integrated market. The full benefits of internal free trade can be enjoyed only if internal trade barriers are not substituted by some forms of anticompetitive practices (Forrester, 1997). Coordination of competition policies contributes to a healthy and stable regional trading system (Bilal and Olarreaga, 1998a). Benefits from harmonisation of other policies may be jeopardised by the non-harmonisation of competition policies. Krugman (1994c) observed that the non-implementation of competition policy in one country might give firms from that country an advantage in foreign markets. For example, policies that allow IJVs and export cartels in international markets may be rational from the viewpoint of the domestic country in case that they raise the returns to domestic firms from their foreign businesses. However, if practiced by all countries, total economic welfare from such behaviour would be significantly reduced. The degree of coordination and harmonisation between national competition policies depends on the existing degree of integration in the union. In the case of deep forms of regional integration such as customs unions and common markets, the need for a common competition policy approach is stronger.[21] However, harmonisation of competition policy may be costly. Furthermore, as suggested in Bacchetta *et al.* (1997), harmonisation of competition policies does not solve for the externality problem. Thus, well-designed institutional arrangements are necessary. The existence of a common institutional framework may facilitate the implementation of a common competition policy. In this institutional framework, common competition

[21] Six forms of economic integration, ranked in increasing order of integration, according to Winters (1991), can be identified: Preferential Trade Areas; Free Trade Areas; Customs Unions; Common Market; Economic Union; and Political Union.

principles embodied in rules and procedures should be adopted by national governments. The implementation of competition policies should be left to either national authorities in the case of national anticompetitive practices without externality effects or to regional competition authorities otherwise. The 'division of labour' between the European Commission and national competition agencies in the EU competition policy regime provides a typical example.

8.3 Competition Policy, Chinese Version

Taking all the above lessons and contemporary movements into account: what would be an appropriate competition policy is for China? Can an appropriate formal competition policy be based upon previous transitional institutions or is a more radical change more sensible? To answer these questions, the assessment of the FDI impact on industrial development presents the central concern. In addition to the theoretical discussion in Chapter 3 and the contextual inquiry in Part I, therefore, Part III provides basic empirical support for our arguments on the design and implementation of Chinese competition policy. Law is national but markets can extend beyond national boundaries. The challenges presented by the proliferation of competition policies and the rapid internalised business activities are stemming from the disjunction between national laws and international markets. Therefore, a pertinent question associated with the design of China's competition policy is how to monitor 'borderless' business activities within a national legal regime. In addition to a deep understanding of the Chinese industrial context, which is addressed in Section 8.1, and the wide coverage of the international policy environment, which is discussed in Section 8.2, a comparative inquiry into competition policies in different jurisdictions is crucial to providing a sound foundation for designing China's competition policy. Competition laws vary from jurisdiction to jurisdiction and variations between them reflect differences in national economic and legal systems. It might not be necessary that developing countries should adopt competition policies that have been adopted by developed countries. The proliferation of competition policy regimes across the world also does not mean the uniformity of rules and institutional arrangements. There are often variations in the structures and contents of competition policy in different countries. It is particularly important for developing countries to consider the design and implementation of competition policy in the light of their own economic, legal and cultural environment. For China, learning from foreign experience and considering an appropriate soft convergence with other authorities may be necessary, in addition to the emphasis on the domestic conditions. On the other hand, the core principles of competition policy emphasised by the Doha Declaration, such as transparency, non-discrimination and procedural fairness, should in any case be applied.

For the design of a competition policy regime, there are three central concerns: first, establishing the basic objectives of the competition policy; second, identifying the constituents of a formal competition policy and stipulating provisions for various instruments of the competition policy; designing the institution of a competition policy regime to support effective implementation and enforcement. After identifying the constituents of a formal competition policy, it is important to assess the implications of different choices in designing a competition policy and to assess the implications of the country characteristics in designing competition policy. Because of the absence of a

comprehensive comparative study of competition policies in different jurisdictions[22], there has been no satisfying answer as to this concern and the design of a competition policy is usually based on foreign experience or a model system, which generally does not adapt to the unique environment of a specific economy. For China, designing an appropriate competition policy needs careful consideration of the unique national context (see Chapter 1) and the country's development needs. A large number of economic issues should be considered and the implications of the effects of inward FDI and industrial policy on competition and industrial development are of particular importance. This section will position the design of China's formal competition policy in a comparative perspective both for analytical reasons and for exploring the possibility of a soft convergence between competition policy regimes around the world.

8.3.1 Objectives of China's Competition Policy: Setting Priorities

China needs to have a competition policy that is designed to take appropriate account of its level of development, its specific economic, social and political context, and the long-term objective of sustained economic growth. What are the implications of the analysis in the previous chapters for the design of an effective competition policy regime? The application of any policy to a set of economic problems is not costless. Competition policy is not different from other policies in this respect. Establishing institutions and implementing the policy requires the use of scarce administrative resources, including considerable human, financial and other inputs. Furthermore, since policy instruments are not perfect and mistakes may be made which imply a better economic performance would be resulted had no policy intervention imposed. The two dominant systems of competition policy are the systems of the United States and of the European Union (see Subsection 3.2.3). The institutional arrangements and the evolutionary processes of these two systems provide valuable lessons for the design of China's competition policy regime.

Objectives of the Chinese competition policy

Regarding the objectives of competition policy, as discussed in Subsection 3.2.1, a spectrum of viewpoints has been expresses. At one end of the spectrum is the view that the sole purpose of competition policy is to maximise economic efficiency. The opposite view is that competition policy is based on multiple values that are not easily quantified. Some sociopolitical criteria such as fairness and equity are incorporated into the objectives of competition policy. In the United States antitrust policy is primarily designed to protect consumer welfare. The central concern of US enforcement agencies and courts is economic efficiency and the underlying assumption is that a robust competitive market is automatically efficient. There is a modest element of fairness and hostility to vast concentrations of market power. By contrast, in the European Union, a dominant objective of competition policy is the economic integration of the member nations. The European Union also considers competitive opportunities for small and medium-sized firms, emphasising the general notions of 'fairness'. Compared to the US antitrust law, the EU competition law still is less consistent with an efficiency-based approach. Neither the European Commission nor the Court of Justice is sufficiently receptive to economic arguments and therefore decisions and judgments are often formalistic and based on reiteration or expansion of early case law. Furthermore, EU member countries also

[22] There have already been notable efforts made by international organisations such as UNCTAD and OECD.

consider technological development, such as employment and measures that encourage cooperation among small and medium-sized enterprises. In some countries, such as Germany, freedom of individual action is viewed as the economic equivalent of a democratic constitutional system. In France emphasis is placed on competition policy as a means of securing economic freedom, that is, freedom of competition.

The respective weights and priorities attached to the objectives of competition policy have remained largely ambiguous and hence are the subject of intensive debate. The relative importance and balance between efficiency and the various other economic, social and political objectives that competition policy can advance also remain to be identified by academic society, legislation agency and competition authority. Different views persist as to which objectives should receive greater emphasis and there is always pressure to increase the number of objectives. However, attempt to consider multiple objectives in the implementation of competition policy may give rise to conflicts and inconsistent results. For instance, protecting small business and maintaining employment could conflict with attaining economic efficiency. In various countries different objectives of competition policies are juxtaposed without any particular ranking of priorities. Despite different views as to the priorities of competition policy objectives, increased emphasis on efficiency is apparent in many jurisdictions. Since the mid-1970s, as noted in Subsection 3.2.1, the interests of consumers in lower prices and improved products became the central concern of competition policy in the United States.[23] The basic static analysis of the welfare loses caused by monopoly, as discussed in Subsection 3.3.1, highlights the interests of consumer as the central concern in competition policy. This has been the thrust of the antitrust enforcement adopted by the US antitrust authority since then. For instance, the 1988 'Antitrust Enforcement Guidelines for International Operations' of the DOJ stated that the purpose of antitrust laws is to establish broad principles of competition that are designed to preserve an unrestrained interaction of competitive forces that will yield the best allocation of resources, the lowest prices and the highest quality products and services for consumers.

The promotion of economic efficiency and improvement of consumer welfare should also be explicitly recognised as the central aim of China's competition policy. In China, as argued in Subsection 8.1.1, the focus on the development of large enterprises and possible regulatory capture may lead to the neglect of consumer interests, hence causing welfare losses for the society as a whole. Firms may successfully lobby for the formulation of government policy to their own benefit but to the detriment the society as a whole, particularly the consumers. In the process of policy formulation, the interests of the incumbent firms are typically well protected, while the representatives of the interests of consumers were typically absent. Therefore ultimately the consumer interest should be paramount in the implementation of China's competition policy and this can be generally achieved by pursuing greater efficiency.

However, the importance of efficiency does not necessarily imply the exclusion of other objectives of competition policy. Because of the complex nature of the Chinese economy

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[23] Beginning in the mid-1970s, the US antitrust authority embarked upon a Chicago School revolution as Robert Bork, along with other antitrust scholars from Chicago University, became federal appellate judges. Over the next two decades, one doctrinal area after another in US antitrust was transformed, among them one key issue was to harmonise the new economic focus on efficiency and entry with the pre-existing legal rules that relied on concentration (Baker, 2002). Since the rise of the Chicago School, the presumption of harm from the increased concentration has declined dramatically. Accordingly, the 1982 Merger Guidelines departed from the 1968 Guidelines by emphasising the analysis of a transaction's competitive effects rather than merely on market concentration.

as addressed throughout this study, other policy objectives should also be considered by China's competition authority. Due to the market imperfections caused by government interventions in a specific context of an emerging market and a transition economy, a pure efficiency approach to the objectives of competition policy is inappropriate for China. Rather, the emphasis of efficiency should be counterbalanced by other appropriate economic and social objectives that competition policy can advance. To avid the ambiguity of the objective of competition policy and to avoid the possible conflict between different goals, however, it is necessary to keep the object of China's competition policy as concise as possible. The fairness of competition should be another core objective in addition to efficiency, or effectiveness of competition. In China, as noted in Subsection 2.2.1, SOEs, FIEs and Private-owned Enterprises (POEs) have not been equally treated. A level playground for firms is still lacking in China. The uneven playground is fundamentally reflected by different treatment to different categories of ownership regarding market entry, taxation and financing. Under the condition of discrimination against certain categories of firms and market fragmentation, the mechanism of competition may be distorted and firms may strive for preferential government policy and regionalised monopoly rent rather than true competitiveness. FIEs are in a preferential position in market competition as both the central government and local authorities provide various incentives to attract inward FDI. Super-national treatment has been given to MNCs. The supportive policies towards large-sized SOEs, especially the NKEs, have put them in the favourable position as well. In addition, they have the strongest influential power for the formulation of the industrial policy. It may not be easy for the government agencies to resist the pressures from SOEs because the government departments and SOEs can be considered as different parts of the same state sector (see Subsection 8.1.1). In the process of policy formulation, the interests of incumbent firms are typically well protected due to the strong bargaining power of them and potential entrants were typically in a weak position. Therefore non-state-owned domestic firms generally face an unfair business environment and an uneven playground. Entry restrictions toward POEs in specific sectors highlight this 'unfairness'.

As argued in Subsection 2.2.1, policy reforms should seek to build institutions without discrimination and providing equal opportunities to all the people. The Chinese government needs to be more aware of the dual effects of specific reform measures in affecting both efficiency and equality. The specific institutional arrangements on the competition issue in China need to achieve the 'effectiveness' for the Chinese model of economic development. Considering the balance between efficiency and equity, we propose an 'effectiveness' approach, which aims to ensure 'effective and fair competition' (see Table 8-7) and thus to promote long-term economic development. The targets of a formal competition policy are not individuals but enterprises. Achieving equal treatment towards different categories of firms is crucial to China's competition policy. Eliminating or relaxing entry restrictions is the basic approach in China at represent to ensure 'effective and fair competition' and thus to promote industrial development. However, the government should have a balanced view on entry control. In the specific economic and industrial context in Chinese industries which are characterised by the strong presence of a state sector and local government interventions, there are always uncontrolled needs for investment due to the problem of soft budgetary constraints. In addition, as suggested in Section 5.2, state-led investment projects are normally based on uneconomic government decisions. Accordingly, immediate abandon of entry control and totally free entry in some previous regulated sectors may worsen the already serious problem of overinvestment. On the other hand, too strict entry restrictions may lead to the insufficiency of competition and consequently a series of problems, as demonstrated by the case of the passenger car

industry. For these industries, therefore, an appropriate degree of entry control is still necessary at present, while achieving equal treatment towards different categories of firms, particularly non-discriminative treatment towards POEs, is especially important.

Table 8-7 Objectives of China's competition policy

Efficiency: **Effective competition**	**Equity:** **Fair competition**
Economic Objectives Economic efficiency (and economic welfare) – Static: low prices – Dynamic: technological change and innovation Economic development Other economic objectives – Protecting small business – Maintaining employment – Market integration	Non-economic Objectives Equity Social welfare Fairness (fair competition) Freedom (of trade, choice and action) Pluralism (political as well as economic)
Effectiveness: **Effective and fair competition**	
Linking competition policy to development goals through the implementation of 'smart governance' measures (cf. Van Tulder, 1999). Performance oriented. Towards an 'appropriate' competition policy regime of 'optimal competition' (cf. Singh, 1999)	

The maintenance and promotion of competition was realised by countering private restrictions on competition. Although there is disagreement over what constitutes private restraints to competition, the main targets of competition policy are private restraints on competition and abuses of market dominance. However, probably the strongest foundation of market dominance comes from the government. Wherever the government uses its authority to exclude potential competitors it is likely to enhance market dominance (Utton, 2003). It may be in the form of exclusive licenses, tariffs, quotas and the programs of nationalisation or privatisation. In some specific jurisdictions, the role of competition policy includes lessening the adverse effects of government intervention in the market and state-owned firms are subject to the rule of competition policy. For instance, in Italy, competition law applies to both public and private firms and firms supplying public services or operating a monopolistic position are exempted from competition law only within the limits of the mission attributed to them. The provisions in Canada's Competition Act are similar. In Sweden the Competition Ombudsman may propose changes to existing regulations that would enhance the competitive environment. Improving access and opening markets by reducing barriers to entry through deregulation, privatisation, tariff reduction, or removal of quotas and licenses are specified as objectives of competition policy in some countries (see Subsection 3.2.1).

The EU competition policy makes it possible to ensure that healthy competition is not hampered by anticompetitive practices on the part of companies or national authorities. The introduction of competition law is in the European Union is a unique case. Its members have collective and national antitrust legislation, with the competition regime of the European Union incorporated into the national laws of individual member states. One of the primary goals of the European Union's competition regime – highlighted in articles of the Treaty of Rome and enforced by the European Commission – is economic

integration among the member countries. In addition to countering private restraints on competition, the EU competition policy also seeks to prevent the member states' governments from distorting competition. By giving certain firms or products favoured treatment to the detriment of other firms or products, 'state aid' can severely disrupts normal competitive forces. The EC Treaty prohibits state aid that distorts competition in the Common Market. The Article 86 of EC Treaty states that the rules on competition also apply to public undertakings. Article 87 of the EC Treaty states that 'any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the common market'. The EC Treaty, however, allows exceptions to the ban on state aid where the proposed aid schemes may have a beneficial impact in overall Union terms.

The provisions in the EU competition law that seek to prevent the member states' governments from distorting competition can particularly be applicable for China. The restrictions on competition can be from firms and they may also be from governments by granting public aid to businesses. The issue of public aid in the European Union is principally associated with the member states, while in China it is related to supportive measures from local governments and industrial polices formulated at the central level. Inter-regional rivalry has provided an impetus for infrastructure improvement and institutional innovation at the local level and thus contributed to local economic growth (see Subsection 2.1.4). However, it also leads to regional protectionism in the forms of preferential treatment towards local firms and restrictions on non-local firms, thus seriously worsening the problem of market fragmentation, which provided a severe challenge for China's long-term economic development. Despite China's rapid integration into international markets, some domestic markets remain fragmented due to the intervention of local governments (see Subsection 2.2.1). As suggested in Subsection 2.2.1, many product markets remain localised and segmented as many local governments used their regulatory and other discretionary powers to favour the purchase of products made within their jurisdiction. In addition to achieving a level playground for firms, concerns should be given to creating an integrated market. The EU competition policy can be taken as an example for the relevant provisions on the issue of market integration in the implementation of China's competition policy.

Competition advocacy as a priority

Competition may not only be hindered by private restrictions but also, under certain circumstances, by government interventions. A major difference between competition issues in developed and developing countries relates to the source of anticompetitive restrictions. In developing countries, a dominant position often results from the direct action of governments (Khemani and Dutz, 1995). They may be well protected by artificial entry barriers and trade barriers. This is quite different to the ways in which enterprises have evolved in developed countries. The implication in terms of competition policy is that a simple transfer of the lessons of competition policy from developed countries to low-income developing countries may be inappropriate.

In developed countries, the objectives of competition policies can be in principle achieved by the promotion of competitive process through the prevention of the abuse of market dominance. In developing countries such as China, however, the lack of competition in industries has been largely determined by restrictive government policies, particularly entry restrictions. Therefore competition advocacy should be a priority for the implementation of China's competition policy. Competition authorities do not have a direct

mandate over commercial, regulatory and privatisation policies but can wield influence favouring market-determined solutions. In some countries, competition authorities can analyse whether regulatory measures from the public sector will negatively affect competition and strive to have any measures that unreasonably limit competition amended or abolished. This function of the competition policy is realised by competition advocacy (see Subsection 3.2.2 for a definition). Different from the three main areas of enforcement activity, competition advocacy is conducted mainly through competition agencies' relations with other government entities and by increasing public awareness of the benefits of competition (ICN, 2002). Based on the experience of other developing countries such as South Korea, the competition advocacy and legislation consultancy should be a necessary part of the responsibility of the future Chinese competition authority. In the early stage of the development of a competition policy regime, advocacy may be the central concern.

Through twenty-some years of transition, as discussed in Section 2.1, the Chinese economy has been transformed from an economic system without competition to a system in which competition plays an essential role. This process has been largely led by procompetitive government policies. At the same time, however, the role of government in the acquisition, exercise and maintenance of market dominance of firms has remained considerable in the reform era. In most occasions, dominant positions were granted to a very limited number of large-sized SOEs. This took place primarily in the generally closed industrial sectors (mainly resource-based heavy industries and utility industries) such as electricity, gas, petroleum, steel and non-ferrous metals (see Subsection 5.2.2 for a detailed discussion). These sectors are also those that have been least deregulated in developed countries as well. Some cases took place in competitive manufacturing industries such as the passenger car industry. Sometimes MNCs are intensively involved, as highlighted by the case of the passenger car industry. As the aftermath of the 1998 agreement in China's photo film industry (see Subsection 5.2.4) showed, for instance, Kodak was able to dominate the market and preempt its competitors by harnessing the sovereign power of the Chinese government for its own end. As discussed in Section 8.1, regulatory interventions, coupled with bureaucratic administrative practices adversely affect business decisions, the performance of firms and the resource allocation function of markets in some Chinese industries. In this respect, reform of the policies and regulations regarding the market entry are especially relevant.

Effective competition advocacy is a particular priority for the successful implementation of China's competition policy. In the process of industrial policy formulation, the interests of the incumbent SOEs are typically well protected due to the strong bargaining power of them, while the representatives of the interests of consumers were usually absent (see Subsection 8.1.1). Therefore, a central agency advocating competition, particularly for the interests of consumers, is a crucial factor underlying the effectiveness of China's competition policy. For the Chinese competition agency, priority should be given to competition advocacy thus to promote a competitive environment for economic activities. When a large number of laws and government mandates will be newly introduced after the WTO entry, this function of competition advocacy is particularly important. The advocacy activities of the Chinese competition agency should target at both other government agencies that are in charge of industry-related policy-making and the society at large. By advocating with the relevant government agencies, the government agency aims at curing anticompetitive effects of regulatory intervention. The advocacy efforts of the competition agency may lead to the rejection or revision of unnecessary anticompetitive regulatory measures, or for the adoption of policies as competition-friendly as possible. One of the most important factors underlying the

effectiveness of competition laws is recognition of the importance of competition law and a willingness to enforce it by both the government and the society at large (World Bank, 2002). To raise the public awareness of importance of competition, the Chinese competition agency should also advocate with the judicial system, economic agents and the public at large.

8.3.2 Instruments of China's Competition Policy: Stipulating Provisions

The present regime of China's competition policy mainly includes the Law to Counter-Unfair Competition, the Law of the Protecting Consumers' Rights, the Price Law, anti-dumping and anti-subsidy regulations, and regulations against unfair competition acts in specific industries, as well as a preliminary system of merger control (see Subsection 2.2.3). Although the scope of China's present competition regime is broad, a large part of the three widely accepted principal areas of modern competition law are still not covered by the present competition policy regime. An independent competition policy agency is still lacking in China. The government agencies currently involved includes the SAIC and the Ministry of Commerce. The current Chinese competition policy, therefore, remains relying on transitional institutions. But the attitude of the Chinese government towards the issue of competition policy has changed as a new legislation plan is implemented in order to expedite the convergence between domestic and international institutions after the WTO accession. A draft version of Antimonopoly Law has been circulated at the end of 2003. Several previous overlooked aspects of competition policy have been covered by this act which can be considered as the core of China's future formal competition policy. However considerable problems remain as to targets, instruments and provisions of China's competition policy. What can be learned from other jurisdictions?

Provisions on agreements among firms

The enforcement of competition policy against collusions (or cartel agreements) is one of the main fields of competition policies. Collusions are treated strictly in most country with competition policy. However, many competition authorities provide administrative or civil remedies rather than criminal penalties, while others criminalise this category of competition offences. It remains that anti-cartel enforcement levels around the world remain relatively low outside the United States. Several jurisdictions have established their own record of anti-cartel enforcement actions and others have toughened their enforcement programs. Jurisdictions including the European Union, Canada, France, Germany, Israel, South Korea, Japan, Mexico and Spain have taken significant actions against cartels. Several other countries, including the Netherlands, South Africa and the United Kingdom have enacted strong new competition laws and are putting anti-cartel enforcement in place.

Different legal and economic standards have been adopted to attack collusions in different jurisdictions. Some countries treat cartel agreements with a *per se* approach. Others do not employ a *per se* rule and competition agency must distinguish between agreements that reduce competition on balance and those that promote competition on balance or are competitively neutral. Table 8-8 shows the standards adopted by different jurisdictions towards collusions. In the United States, the European Union, Germany and Australia, for example, price-fixing is *per se* illegal and subject to criminal penalties. The US Supreme Court has determined that cartel agreements are so universally and obviously destructive of competition that they are always unreasonable and that they are thus illegal '*per se*'. If the parties can be proven entering one of these types of agreements, they are guilty of a Sherman Act violation and no discussion of the alleged reasonableness or

benefits of the agreement is necessary. In Canada, although such agreements are treated as criminal acts, they must affect a substantial part of the market. In Spain, Sweden and the United Kingdom, a rule-of-reason standard is applied to judge the legality of collusions.

Table 8-8 Standards towards collusions

Per se standard	*Substance standard*	*Rule-of-reason standard*
Australia	Canada	Spain
European Union		Sweden
Germany		United Kingdom
United States		

The use of straightforward *per se* prohibition may simplify the judicial process and can provide clear guidance for firms. If the *per se* approach applies too broadly, however, the implementation of competition policy may stifle business activities that could enhance competition and efficiency. Agreements that may enhance competition should be evaluated to determine whether they are, on balance, pro- or anti-competitive. Most competition laws take a rather liberal view of horizontal agreements other than cartels – such agreements are allowed unless there is a good reason to prohibit them. The agreements are prohibited only if they are, on balance, harmful to competition. Competition authorities balance the competitive benefits and costs of a particular agreement and then determine whether the agreement is reasonable. In a variety of cases in the implementation of competition policies such a 'rule of reason' approach is adopted. As a specific sort of horizontal agreements, cartel agreements are usually distinguished from other forms of agreements and treated with the *per se* approach. However, the draft version of China's Antimonopoly Law seems to generally adopt a 'rule of reason' approach and does not distinguish cartel agreements.

In the United States collusion are commonly treated with criminal sanctions, with potentially large fines to injured parties. The DOJ devotes substantial staff to detecting and challenging cartels. The European Commission staff for cartel enforcement is much smaller, but they cooperate with staff in competition agencies in member states. There is no investigative staff and cartels are normally investigated only following a complaint (Graham and Richardson 1997). This weaker enforcement of cartels in the European Union could be partly a legacy of the history. Prior to the 1957 Treaty of Rome, which codified European competition law, cartels were customary in Europe. The differences in the treatment of cartels between the United States and the European Union also reflect the general differences in their objectives for competition policy. These differences are important for developing countries in general and China in particular, which may model their institutions after those of the United States or the European Union.

In the design of the competition policy regime to fight cartel agreements, there are complex mechanisms adopted by other jurisdictions, which can be learned by China. Since 1978, the DOJ has allowed for the possibility of avoiding criminal sanctions if specific conditions occurred. This program promises the first firm that reports an existing cartel agreement to the antitrust authorities a complete exemption from fines. In 1993 this policy was redesigned into the Corporate Leniency Policy, which clarified that criminal sanctions can be avoided in two cases: 1) if a colluding firm reveals information before an investigation is opened; 2) if the DOJ has not yet been able to prove collusion when a firm decides to cooperate. The implementation of this new leniency policy has shown a significant success in terms of the number of cases that the DOJ has been able to open and successfully conclude. The DOJ's success under its Corporate Leniency Policy has been studied by other jurisdictions. Following the United States, the European Union introduced

in 1996 a similar leniency policy, in which more generous fine reductions can be given to firms which cooperate with the antitrust authority before an inquiry is opened by providing evidence of a collusive agreement in which they have been involved, while limited reductions can be granted if cooperation occurs after the opening of a case. Canada and the United Kingdom have also promulgated and improved their own corporate leniency programs.

The US experience demonstrates that the extension of the leniency program to post-investigation amnesty is a crucial ingredient for a leniency policy. Motta and Polo (2003) analysed the effects of leniency programs on the incentives of firms to collude and to reveal information that helps the antitrust agency to verify illegal practices. They demonstrated that, by reducing the expected fines, leniency programs may induce a pro-collusive reaction. Thus, if the resources available to the antitrust authority are sufficient to prevent collusion, leniency programs should not be used. However, when the antitrust authority has limited resources, leniency programs might lead to more effective enforcement against cartel agreements. The authors showed that the optimal arrangements require maximum fine reduction rather than part reduction and a leniency program should be equally applicable to information disclosed before and after an investigation has started. According to the authors, allowing fine reductions only to firms which report to the antitrust agency before an inquiry is opened is inferior to the arrangement by which firms are entitled to fine discounts even if they reveal after an inquiry is opened. China's competition agency should consider optimal institutional arrangements based on this foreign experience when designing and implementing a leniency program.

Provisions on abuses of market dominance

Investigating alleged abuses of a dominant position may be the most controversial and difficulty task for competition agencies. With regard to the treatment of this issue, currently there are remarkable differences between US and EU laws.[24] Some competition laws and implementation guidelines have market share thresholds incorporated to simplify the inference of a dominant position. Thresholds provide clarity to the business community and it is important to be retained in some forms. According to the 1992 Horizontal Merger Guidelines, the US antitrust agencies divide the spectrum of market concentration as measured by the Herfindahl-Hirschman Index (HHI) into three regions that can be broadly characterised as not concentrated (HHI below 1000), moderately concentrated (HHI between 1000 and 1800) and highly concentrated (HHI above 1800).[25] A survey of competition laws in 50 countries conducted for the World Development Report 2002 (World Bank, 2002)[26] revealed that 28 out of 50 countries have qualitative definitions of dominance, while the remaining 22 countries have a wide range of market shares as their benchmarks (see Table 8-9). Most OECD countries define dominance qualitatively. Several Latin American countries also define dominance qualitatively, but other developing countries tend to have quantitative benchmarks.

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[24] See Utton (2003) for a detailed discussion.

[25] See Subsection 4.2.1 for the discussion of HHI and other measures of concentration. As an aid to the interpretation of market data, according to the 1992 Horizontal Merger Guidelines, the US antitrust agencies use the HHI to measure market concentration.

[26] This report showed that different conceptions of competition reflected in two key elements of competition law across countries: what constitutes dominance – the ability of a firm to unilaterally control price and output in the market – and how countries deal with cartels, or agreement between firms. Differences are also reflected in the way competition laws are enforced.

Table 8-9 Benchmarks of market dominance in competition laws

Country group	*Market share*
Developing countries	
East Asia	50-75 percent
Eastern Europe and Central Asia	30-40 percent
Africa	20-45 percent
Developed countries	
United States	Two thirds or more
European Union	40-50 percent

Source: World Bank (2002).

In the draft version of China's Antimonopoly Law, market share thresholds simplifying a dominant position are provided. According to the Article 16 of this draft law, a dominant position can be inferred as the market share of a firm or the combined market share of several firms reaching the following thresholds: 1) the market share of one firm is above 1/2; 2) the combined market share of two firms is above 2/3; 3) the combined market share of three firms is above 3/4. Thus it seems that the draft law has adopted a concept of 'joint dominance', which was used by the European Commission. As suggested in Subsection 3.2.3, a *per se* approach may well be adopted against cartel agreements, while a rule-of-reason approach that evaluates facts on a case-by-case basis is likely to be more appropriate when dealing with abuses of a dominant position. China's competition authority should avoid a simplistic treatment of market dominance as a matter of market share. The competition agent should carefully balance the competitive benefits and costs of a particular behaviour. In this sense, a qualitative rather than a quantitative definition of market dominance may be more reasonable, considering the complexity of measuring market competition and economic efficiency particularly in the context of a developing economy.

M&A control

Te legal framework of China's merger control system is embodied in a number of regulations on merger and acquisition targeting at different ownership categories of firms, promulgated and implemented by different government agencies (see Subsection 5.2.5). Therefore the central issue for China's merger control system is to centralise China's M&A control by integrating various regulations and concentrating administrative power to one government agency. In practice, a merger control policy targets not only merger and takeovers, but also joint ventures or other acquisitions of control, including interlocking directorship.[27] Due to the fact that many foreign mergers have been implemented in the form of IJVs, it is important to include joint venture in the targets of China's merger control system. This has been neglected by some regulations on (foreign) mergers promulgated in recent years.

The merger control system should cover the notification, investigation and prohibition of M&As, no matter whether they are horizontal, vertical, or conglomerate. With regard to the merger notification system, there are three categories of institutional arrangements (see Table 8-10). Mandatory pre-closing notification system has been the mainstream model in controlling mergers. Both the United States and the European Union have established a system of notification prior to the consummation of mergers (for other examples of merger notification systems see Table 8-10). For most jurisdictions, notification is mandatory only

[27] See UNCTAD (2000b).

when the proposed M&As are above certain thresholds. Notification triggers in merger control differ across jurisdictions.[28] Many indicators, such as total annual turnover and total assets, can be used as notification thresholds. China's merger control system should provide detailed provisions concerning the notification, procedural issues and penalties. The thresholds clarified in the draft version of China's Antimonopoly Law only simplify the inference of a dominant position and do not provide criteria to challenge a merger because in the draft law, the notification criteria is not clarified and is stated to be determined by the State Council. The notification trigger for foreign M&As has been clarified in 'Interim Provisions on Mergers and Acquisition of Domestic Enterprises by Foreign Investors'. Concerning the inconsistency between different regulations towards different ownership categories of enterprises, the current merger control system in China is far from effective. To design a 'unified' system of merger control without discrimination between different ownership categories of enterprises should be a key consideration in establishing a formal merger policy in China.

Table 8-10 Classification of merger notification systems

Mandatory pre-closing notification system		*Mandatory post-closing notification system*	*Voluntary notification system*
Albania	Latvia	Argentina	Australia
Argentina	Lithuania	Denmark	Chile
Austria	Macedonia	Greece	Cote d'Ivoire
Azerbaijan	Mexico	Indonesia	France
Belarus	Republic of Moldova	Japan	New Zealand
Belgium	Netherlands	South Korea	Norway
Brazil	Poland	Russian Federation	Panama
Bulgaria	Portugal	South Africa	United Kingdom
Canada	Romania	Spain	Venezuela
Colombia	Russia	The Former Yugoslav	
Croatia	Slovak Republic	Republic of Macedonia	
Cyprus	Slovenia	Tunisia	
Czech Republic	South Africa		
European Union	South Korea		
Estonia	Sweden		
Finland	Switzerland		
Germany	Taiwan, China		
Greece	Thailand		
Hungary	Tunisia		
India	Turkey		
Ireland	Ukraine		
Israel	United States		
Italy	Uzbekistan		
Japan	Yugoslavia		
Kazakhstan			
Kenya			

Source: UNCTAD (2000b).

When examining horizontal or vertical mergers, competition authorities attempt to prevent the creation or enhancement of market power. However, substantive evaluation criteria in merger control differ across jurisdictions. According to the 1992 Horizontal Merger Guidelines of the United States, sound merger enforcement must prevent anticompetitive mergers yet avoid deterring the larger universe of procompetitive or

[28] See the Annex III of UNCTAD (2000b) for details of notification triggers.

competitively neutral mergers. The competition authorities should not intervene if a horizontal merger may have a negligible effect on market power (see Subsection 3.2.2). In case that a merger simultaneously enhance market power and promote technical efficiency, the competition authorities have to decide whether the merger should be blocked, principally based on the trade-off between the probable increase in market power and the prospective efficiency improvement. Due to the space limit of a single legislation, China's Antimonopoly Law should provide some general principles on substantive review and prohibition criterion and detailed analytical roadmap for the evaluation of mergers should be elaborated in a specific enforcement guideline.

8.3.3 Implementation Framework and Process: Designing the Institution

In China, there has been an 'informal' competition policy regime, which relies on transitional institutional arrangements. A number of critical problems exist in China's current competition policy regime. First, an antitrust law, the core of a competition policy system, is lacking. Secondly, an independent competition agency has not been established. Thirdly, there has been no centralised system of merger control that is implemented by a specialised competition agency, without discrimination between different ownership categories of firms. Furthermore, the public awareness of competition issues is weak. To establish a formal competition policy in China, comprehensive institutional arrangements should be made for the implementation of a competition policy. A competition policy regime comprises both substantial legal rules and an enforcement system of these rules. As suggested in Subsection 3.2.3, the implementation framework and process differ from jurisdictions, but usually addresses four basic functions: 1) initiates proceedings, 2) undertakes investigations, 3) adjudicates contested competition proceedings, and 4) judicial review of competition decisions. The design of an implementation framework with significant account of China's social, economic, political and legal context as well as the current transitional institutions is a demanding task.

Competition law

A competition law, as stressed in Subsection 3.2.3, is the core of a competition policy regime. A competition law should specify objects of the competition policy and cover the three main enforcement areas of a competition policy. In developed countries that have introduced competition policies for decades, the current competition laws are the result of a long-term process of evolution and are usually embodied in different acts. For instance, the acts that have defined US antitrust policy include the Sherman Act, Clayton Act, Federal Trade Commission Act, Robinson-Patman Act, Celler-Kefauver Act and the Antitrust Enforcement Improvement Act (see Subsection 3.2.3). As latecomers of competition legislation, developing countries can centralise the antitrust provisions in one act that covers all necessary aspects of a competition policy regime, based on the experience of the precedent jurisdictions. However, developing countries can also design a legal framework including several separate acts covering different aspects of a competition policy in order to take account of the domestic legal and administrative framework. For China, the core of the competition policy regime, an antitrust law, is still absent. The present regime of competition policy is mainly centred on the Law to Counter-Unfair Competition, which covers a number of business anticompetitive practices such as predatory pricing and bid rigging. The centre theme of a competition policy, collusions or cartel agreements, has not been covered. Specific provisions for an effective merger policy are also lacking. A practical choice for China is to enact a centralised competition law (the

Antimonopoly Law) covering all three main aspects of competition policy enforcement and also defining an effective administrative framework for the implementation of competition policy, including the critical function of competition advocacies. The Law to Counter-Unfair Competition is clearly not sufficient for a formal competition policy, but the present enforcement of this law is well functioning. Therefore the interface between the newly enacted competition law and the Law to Counter-Unfair Competition should be carefully defined. In the short run, a separate enforcement of the two laws is practical. In the long run, most previous laws and regulations should be abrogated and replaced gradually and a centralised legal framework built around the Antimonopoly Law and affiliated enforcement guidelines should be formally established.

Enforcement guidelines

A competition law should be supplemented with enforcement guidelines, which was issued and followed by the competition agency. The enforcement guidelines also inform the business community of relevant policies. In the United States, several antitrust guidelines have been issued (for current effective guidelines see Table 8-11). Different guidelines deal with specific issues in antitrust enforcement. For instance, the 'Guides for Advertising Allowances and Other Merchandising Payments and Services', the so-called 'Fred Meyer Guidelines', deals with advertising and promotional assistance given by suppliers to their reseller customers in connection with resale activities. The 'Statements of Antitrust Enforcement Policy in Health Care' explains how physician networks will be treated by the antitrust authorities. The 'Antitrust Guidelines for the Licensing of Intellectual Property' clarifies the role of antitrust policy in high-technology industries. The 'Antitrust Guidelines for Collaborations among Competitors' addresses the issues that arise when direct competitors seek to cooperate in the approaches such as to set standards or to participate in joint ventures. Probably the most influential antitrust guidelines are the 'Horizontal Merger Guidelines', which were issued and followed by both the DOJ and the FTC. The Merger Guidelines were first issued in 1968 and totally revised in 1982 under the first Reagan administration. In 1992, the DOJ and the FTC jointly issued Horizontal Merger Guidelines revising the DOJ's 1984 Merger Guidelines and the FTC's 1982 Statement Concerning Horizontal Merger Guidelines. In 1997, the Horizontal Merger Guidelines was revised to expand the explanation of how the antitrust agencies will treat efficiencies.

Table 8-11 US antitrust guidelines

Guidelines	*Year of promulgation*
Guides for Advertising Allowances and Other Merchandising Payments and Services	1990
Horizontal Merger Guidelines	1992 (revised in 1997)
Statements of Antitrust Enforcement Policy in Health Care	1994 (revised in 1996)
Antitrust enforcement guidelines for international operations	1995
Antitrust Guidelines for the Licensing of Intellectual Property	2000
Antitrust Guidelines for Collaborations Among Competitors	2000

Some issues that have been covered by the US antitrust guidelines may also be important for the implementation of China's competition policy. Perhaps the most important issue is a detailed guidance on market definition. The 1982 revision of the US Merger Guidelines began to provide detailed guidance for market definition. By

introducing the concept of antitrust market[29], the US competition authorities define the relevant market as 'the narrowest product and geographic area in which a hypothetical monopolist could profitably raise and maintain prices above the competitive level significantly (of the order of 5 percent) for a substantial period of time'. The Merger Guidelines provides a paradigm for defining relevant product and geographic markets that is based on the likely demand response of consumers to an anticompetitive price increase. Market definition should take into account both the demand and supply considerations and include both actual and potential sellers. Considering the importance of market definition in the implementation of a competition policy, a guideline providing detailed guidance for market definition in competition investigation should be promulgated within a short-term period.

In the implementation of competition policies, market definition continues to cause problems, even in the United States, which has detailed guidelines for this issue since the early 1980s. On the demand side, goods or services should be treated as being in the same market if they are close substitutes. The greater the range of products included as substitutes, the smaller will be the market share of the dominant firm, the larger will be its own demand elasticity, and therefore the smaller its market power. Defendants in antitrust cases therefore always argue strongly in favour of more products being included in the correct identification of the market. On the supply side, if the elasticity of supply is high, it will also tend to increase the firm's own price elasticity and reduce its market power. If we broaden our consideration of supply elasticity this may further affect the market power of dominance firms. The definition of the market is crucial in EU cases, but it appears to have taken on a rather different significance (Utton, 2003). It has been argued, notably by Fairburn *et al.* (1986), that, rather than establishing dominance independently and as a first step prior to an examination of evidence of abuse, the EU authorities have tended to determine that an abuse has occurred and then define the relevant market in such a way that dominance is unquestionable. This has been changed since December 1997 when the European Commission adopted the Notice on Market Definition and make defining the relevant market a first-step necessity.

Enforcement system

In addition to the substantial legal rules clarified in the competition law, an enforcement system of the competition law should be established. The system comprises both a judicial and an administrative framework, the functioning of each of which should be specified by the competition law. A pure administrative framework of competition policy without judicial participation may be a more efficient choice for China. However, to incorporate the logic of 'check and balance' and to restrain the administrative power of the government, an independent judicial system would be crucial to the successful implementation of China's formal competition policy. The independent judicial body should have the final adjudicative power and should be qualified to fulfil the obligation of the judicial review of

[29] An antitrust market is 'the minimum area and a collection of producers who could, in principle, exercise market power in that area if they acted collectively.' (Geroski, 1998: 681) The market boundaries are determined by the hypothetical monopolist test: Firms compete in the same relevant market if a hypothetical, profit maximising and unregulated sole supplier can be expected now and in the future to 'impose a small but significant and non-transitory' increase in price above prevailing or likely future levels.' (DOJ, Merger Guidelines, 1982) The basic idea is asking the following question: If a supplier increases its price to a level above the competitive price, would consumers still buy from that supplier (such an increase may be small, as long as it is significant and non-transitory)?

competition decisions. An independent government agency should take the responsibility of fulfilling the other three basic functions: 1) initiates proceedings, 2) undertakes investigations, and 3) adjudicates competition proceedings. Competition decisions should be made by the government agency and an appeal against a decision may be brought to the Court. Both the competition agency and the private sector should have the authority to lodge suits and thus to initiate proceedings. If the government is the only agent with this authority, the effectiveness of competition law in promoting competition can be undermined (World Bank, 2002). For the competition agency, the key enforcement decisions are whether to initiate an investigation. Another important decision is whether to settle or litigate. Before taking formal actions, the competition agency usually gives the targets of their investigations a chance to settle.

The institutional arrangements of the competition agency differ widely across jurisdictions. In the European Union, Council Regulation 179 empowers the European Commission to enforce Articles 81 and 82 of the EC Treaty. The Commission is divided into Directorates-General (DGs), each responsible for a different policy area. DG Competition is responsible for competition policy. DG competition is divided into several directorates. DG Competition/A is responsible for policy, legislation and coordination. DG Competition/B is called the merger task force and is responsible for investigating notified mergers. DG Competition/C to F investigate individual cases under Articles 81 and 82, each specialising in a particular industry. DG Competition/G handles state aid matters. Investigations by the DG Competition may originate from a complaint, a parliamentary question, as a result of notification by an undertaking or on the Commission's own initiative. Many investigations, including those on most mergers, are initiated by way of notification. In principle, EU competition policy only applies to cases that affect trade between the member states. Member states expected to renounce jurisdiction over a case when it is taken up at the EU level.

In the United States, the DOJ and the FTC are two federal authorities that enforce antitrust policy and the states can bring antitrust actions as well. In principle, US Federal antitrust laws only have jurisdiction in cases for which 'interstate commerce' is affected. In fact, 'interstate commerce' is almost always affected. The DOJ is a part of the Executive Branch of the United States. The Attorney General is the head of the DOJ and serves at the discretion of the President. The Antitrust Division of the DOJ is the competition arm of the DOJ. The head of the Antitrust Division reports to the Attorney General and is in charge of investigations and prosecutions of criminal violations, merger control, and non-merger violations that do not rise to the level of a criminal infraction. The FTC is an 'independent' agency, meaning that it is not a part of the Executive Branch of the US government. Five individuals serve as commissioners, who are appointed for staggered terms of seven years. The commissioners make the decisions of the FTC and they operate by majority vote. The DOJ and the FTC have informally divided enforcement responsibility by industry, but in many cases there are overlaps (Litan and Shapiro, 2001).[30] Where that occurs, there may be tension between the DOJ and the FTC. Clearly, a relatively centralised competition agency as the EU model – although based on the principle of subsidiarity which implies that national/local competition authorities can have an important say over their 'relevant market' – is a more efficient choice for China. But the experience of the institutional arrangements to ensure independence of the FTC is also worthy to learn. Both the Europe

[30] The DOJ has handled airlines and telecommunications, for example, while the FTC has specialised in the oil industry and pharmaceuticals.

Commission and the United States in the FTC have adopted a commission structure. The commissions in these jurisdictions are responsible for investigating conduct, bringing proceedings and adjudicating disputes. Judicial review is generally not available until decisions have been formally rendered by commissions themselves. Considering China's specific political environment, a commission structure within the Executive Branch can be a practical choice for the institutional arrangements of China's future competition agency. Unlike the US and the EU models, a centralised (in terms of central-local relationship) administrative structure should be adopted in order to avoid inappropriate interventions from local governments when competition policy actions are taken at the local levels and to promote the development of an integrated national market.

Several issues should be considered to build an effective competition authority. First, it is important to ensure the independence of China's competition authority.[31] The future competition authority should be independent of a government ministry and should have its own budget. It is crucial to ensure that the competition agency acts independently to fulfil its responsibility of competition advocacy and to represent the interests of consumers in the formulation of government policies. To ensure the independence of the US competition policy implementation, as mentioned above, the FTC is designed as an 'independent' agency outside the Executive Branch of the US government. Rather than this approach, a possible solution for China is that the head of the authority is appointed by a committee or the parliament rather than by the head of the government. Independence of competition authorities from government ministries may be more important in developing economies than in developed countries, where there are more checks and balances in the political systems and where greater transparency protects the independence of competition authorities. Secondly, China's competition agency should have the legal enforcement mandate, which is crucial to effectiveness of competition policy. The competition agency needs to have legal enforcement powers so that the agency can adjudicate the competition proceedings without referring the Court. The competition agency should have the statutory authority to force firms to provide necessary information. Thirdly, China's competition agency should have adequate budgets and staff to perform its functions. The implementation of competition policy requires high levels of expertise in colleting relevant information, engaging business and industry expertise, analytical skills, and a sophisticated understanding of relevant theoretical frameworks (Trebilcock and Iacobucci, 2002). The development of this expertise requires accumulated experience over a long period of time for a newly established agency. With the budgetary and human resource constraints, priorities of competition law enforcement should be decided in order to distribute a limited amount of resources. Currently, as argued in Subsection 8.3.1, competition advocacy should be a priority. Fourthly, in order to enhance the performance and public credibility of the implementation of competition policy, transparency is important. Decisions by competition authority should be publicly available. On the one hand, the public availability of competition decisions may have a deterrent effect on potential violations of competition law. On the other hand, the competition authority should publish the enforcement guidelines to inform the business community of their policies.

[31] See World Bank (2002) for a general discussion.

8.3.4 Policy Harmonisation and International Cooperation

When the government introduces a new policy, its implementation may have unintended consequences in particular economic, political and social contexts. This situation is somewhat analogous to the one in which a medicine tested in a laboratory has unpredicted side effects to a human being due to the complexity of living organic systems. This suggests that only institutional arrangements that are mutually consistent may be viable and sustainable in an economy. Otherwise, an attempted institutional design may be highly unstable. There are possibly inconsistence and tension between competition policies and other government policies. A formal competition policy should develop collaborative and constructive relationships with other policies and the overall political and economic setting in which it operates. In addition to domestic harmonisation between different policies, international cooperation with other competition authorities in other jurisdictions should be considered when implementing a competition policy.

Policy harmonisation

A source of tension in the implementation of competition policy is the priority attached to competition policy relative to that assigned to other policies. Given the extensive interaction the competition policy may have with other government policies in China, there are areas in which the respective policy objectives may be complementary such as in the case of initiatives directed at the deregulation of monopolistic industries and SOE reform. However, in other areas such as trade, industrial, employment and regional development, policies conflicts may often arise. The extent of consistency, or its lack, between competition policy and other government policies can support or thwart the achievement of objectives of competition policy. Thus the harmonisation with other government policies is crucial to the effective implementation of competition policy. China's formal competition policy may interact with telecommunications policy intensively. Competition policy may also possibly influence the reform of other 'natural monopolistic industries', such as electricity, gas and railroad, and has an impact on the further openness of service sectors. In addition, defining the interface between the merger control and other relevant policies, such as the policy on state asset management, should be taken into account.

At the current stage of China's economic development, industrial policy should be the central concern for policy harmonisation. Industrial policy has been thought to be the effective way to stimulate industrial development and to create welfare by means of selective support. The experience of Japanese and South Korean industrial policies is especially relevant to developing countries, particularly for semi-industrialised countries like China.[32] For developing countries, much more emphasis should be put to the long-term industrial development, because short-term efficiency associated with market imperfections might jeopardise long-term development. There should be recognition of the importance of an appropriate form of industrial policy and hence the need for a coherence between industrial and competition policies (Singh, 1999). Although problems do exist in the formulation and implementation of industrial policies, to tackle these problems by simply substituting industrial policies with a competition policy is not optimal. As argued in Subsection 8.1.2, a more practical choice is to supplement industrial policies with an appropriate competition policy. The role of industrial policies in directing resource

[32] See Singh (1999).

allocation towards specific strategic sectors and in promoting firm competitiveness should be made full use of. Meanwhile, competition policy can supplement industrial policy by ensuring the markets to be competitive by countering private restrictions on competition and by rejecting unnecessary anticompetitive regulatory measures. Thus the risks and uncertainty of industrial policies can be avoided through the introduction of competition policy.

Developments in economic theory have enriched our understanding of how competition and competition policy may work in the various spheres of an economy and in different economies (see Section 3.1 and Section 3.3). Economic development experience of many developing countries demonstrates that they can gain from improving competitive processes within their economies. Therefore, competition policy could play an important role in promoting industrial and economic development. In the post war period of Japan's rapid economic development, however, the competition policy was subordinated to industrial policy. Although there has been no comprehensive account of competitive situations in Japanese industries during that period, there is evidence that the Ministry of International Trade and Industry (MITI) frequently imposed restrictions on market competition in order to maintain the private sector's high propensity to invest (Amsden and Singh, 1994). MITI even encouraged a variety of cartel arrangements in a wide range of industries. Believing that large enterprises were required for the promotion of technological advance and for Japanese firms to compete effectively with their western counterparts, MITI also encouraged mergers between leading firms in key industries (Amsden and Singh, 1994). However, MITI also made sure that not one cartel developed – rather it often invested in creating a number of competing cartels in particular in so-called pre-competitive areas like technological development. This proved very effective for introducing competition, whilst at the same time triggering growth of domestic industries (cf. Ruigrok and Van Tulder, 1995). In its early phase of economic development, the South Korean government followed the Japanese strategy of economic development. South Korean government played an important role by its export-oriented growth strategy and industrial policy (Nam, 1989). But due to the smaller size of the economy, the South Korean government did not have equal opportunities in supporting competing conglomerates/cartels by domestic markets. It had to be more selective in its industrial policies than the Japanese government (cf. Van Tulder and der Zwart, forthcoming). Like in Japan, a strong industrial policy dominated competition policy in the period of rapid economic growth. There are many ambiguous exemptions in the competition law that permits dominant positions of firms (see Subsection 2.2.4). As a result of the lax enforcement of competition policy, South Korea has one of the highest levels of industrial concentration in the world. The South Korean government gave higher priority to large firms over small and medium-sized enterprises. The *chaebols* have been given strong government support in return for meeting specified performance targets for exports, new product development and technological change. In markets, the *chaebols* competed for market share, as that determined their subsequent investment allocations in a particular industry. Like Japanese government between 1950 and 1973, the South Korean government until the 1990s has purposefully coordinated industrial investment by competing *chaebols*, so as to prevent overcapacity and too much competition (Chang, 1994). The industrial policy instruments used by Japan and South Korea during their rapid economic growth period included administrative guidance and tax reductions. Both countries also adopted a series of export promotion measures and import restrictions to accelerate industrial development. These governments also tried to subject the selected sectors to international competition that forced them to become more efficient. The lax

enforcement of competition policy of both countries should also be seen as a part of their industrial policy regimes (Singh, 1996).

The industrial policy instruments served its purpose effectively in the early stages of economic development in Japan and South Korea. But as the economy developed and the economic environment changed, this type of government intervention began to hamper efficient economic performance. Regulation originally justified by market failures eventually gave rise to government failures (Lee, 2002). In 1988, the South Korean government began to deregulate industries on a vast scale. The government subsequently improved its competition policy in a gradual manner towards a level commensurate with developed countries (see Subsection 2.2.4). The economic crisis in 1997 accelerated this process. The Japanese competition policy also experienced a similar process of strengthening and maturing. In a broader perspective of the East Asian region, competition policy has become one of the central policy issues after the economic crisis in 1997, in which the structural problems of the some East Asian economies were revealed.

At the current stage of China's economic development, industrial policy should undoubtedly still play a central role in a policy framework to promote industrial development. Competition policy provides a necessary supplement to industrial policy. To harmonise competition policy and industrial policy, the government agencies in charge of implementing both policies should took each other into account. For the implementation of industrial policy, it is important to avoid using anticompetitive regulatory measures and to focus on providing incentives therefore to guide private investment into specific strategic sectors. To avoid distorting the competition mechanism, industry- rather than firm-oriented policy measures are more desirable. It is crucial to provide a level playing ground for firms, foreign and domestic, private- and state-owned, and to let them compete with each other in integrated markets and act in response to market signals. A non-discrimination and national treatment policy setting is crucial to allocating resources to efficient firms and capable entrepreneurs, thus being constructive for long-term industrial development. Selective support towards large firms may help to promote the competitiveness of these firms, while the risk lies in that this policy may protect the inefficient firms on the expense of truly efficient firms, which have greater potential to build up their competitiveness in a condition of 'fair' competition. The Japanese and South Korean experience demonstrates that elected support should be supplemented with measures to subject the supported firms to international competition that forced them to become more efficient. In addition, specified performance targets for exports, new product development and technological advance should be established for the supported firms. Without fulfilling these targets, the government support should be withdrawn and given to more efficient firms. An ideal choice for the Chinese government is that selective support should be given to specific firms up to some transparent standards despite the ownership categories of them. However, due to the political consideration of national interests, domestic firms should be the main targets for the government support. Within domestic firms, non-discriminative treatment toward POEs and other non-state-owned ownerships is crucial. Thus the policy framework of industrial development and competition policy should also be harmonised with policies on SOE reform, which may have conflicting objectives with the objective to promote long-term industrial development.

International cooperation

Expanding international businesses both in China and around the world necessitates international cooperation between China's competition agency and competition authorities in other jurisdictions. China's competition agency will face an increasing number of cases

involving foreign firms and increasingly have to address policy decisions that are not confined to the national territory. The major challenge may be the risk of inconsistent outcomes including conflicting remedies being imposed by different competition authorities. China's competition agency, as its counterparts in other jurisdictions, can face the challenges of international competition policy by entering into bilateral cooperation agreements and by efforts to promote multilateral cooperation. This dual approach is meant to reduce the scope for conflict by sharing information, coordinating procedures, or to converge on substantive issues. It should be recognised that a multilateral agreement on competition that could improve global welfare cannot be easily negotiated. In the short term, the Chinese government should focus on achieving more effective enforcement of existing national competition policy and improving the ability of national agencies to regulate foreign anticompetitive practices that directly affect domestic markets. Although the competition authorities have been granted extraterritorial jurisdiction, a strong tendency to apply the Chinese laws to offshore mergers should be avoided at the current stage.

Where competition investigations involve multiple jurisdictions, it is necessary for the Chinese competition agency to cooperate with its counterparts in other jurisdictions. To cope with the challenges for increased international coordination in competition policy, the current focus should be bilateral agreements. In December 2003, China made the first step towards formal international cooperation on competition policy. A Memorandum of Understanding on competition policy dialogue between China and the European Union has been signed between the Ministry of Commerce and the European Commission in Beijing.

8.3.5 Summary

At the current stage of China's economic development, industrial policy should still occupy a central position in a policy framework to promote industrial development. However, industrial policy instruments are by no means perfect. Certain level of risks, inflexibilities and uncertainties is associated the implementation of China's industrial policy. One of the essential problems of China's present industrial policy is its incapability to ensure a sufficient degree of competition in domestic markets. Although free trade and market entry could act as a substitute to competition policy, the risks and uncertainties associated with industrial policies indicate that competition policy may have an important role to play to sustain the Chinese development model. Competition policy provides a necessary supplement to industrial policy. Competition policy should be integrated into a policy framework to ensure that inward FDI plays a positive role in promoting industrial, economic and social development. Although the promotion and protection of market competition can be realised without a formal competition policy, as was previously the case in a large number of Chinese industries, introducing such a policy would help protect the functioning of competitive markets in a more efficient and institutionalised manner. China needs to have a competition policy that is designed to take appropriate account of its level of development, its specific economic, social and political context, and the long-term objective of sustained economic growth. Designing an appropriate competition policy also needs learning from foreign experience. Based on these believes, this section provides recommendations on the objectives, instruments and institutions of China's formal competition policy. The outlook of an appropriate competition policy for China is summarised in Table 8-12.

Table 8-12 Outlook of an appropriate competition policy for China: summary of recommendations

Item	*Recommendation*
Objectives	Promote the 'effective and fair competition' – Promotion of economic efficiency and improvement of consumer welfare as the central aim – Emphasising fairness of competition: an appropriate degree of entry control; equal treatment towards different ownership categories of firms
Instruments	Giving priority to competition advocacy: promotes public awareness of competition issues, builds public support for more competition-friendly government policies, and advocates within the government stressing the merits of market competition
Agreements among firms	– Straightforward *per se* approach to cartel agreements – Establishing an leniency program incorporating optimal arrangements
Abuses of market dominance	– Adopting a rule-of-reason approach on a case-by-case basis – Simplistic treatment of market dominance should be avoided
merger control	– Centralising the merger control authority and building a 'unified' system without discrimination – Including (international) joint ventures in the targets of merger control
Implementation (institution)	Transferring the current competition policy based on transitional institutions into a formal competition policy regime
Competition law	– Enacting a centralised competition law (the Antimonopoly Law) – Defining the interface between the new law and previous laws at present – Establishing a centralised legal framework in the long run
Enforcement guidelines	– A detailed guidance on market definition is critical
Enforcement system	– An independent judicial body should have the final adjudicative power – A centralised administrative agency (a commission structure within the Executive Branch) with legal enforcement mandate – A centralised (central-local relationship) administrative structure – General principles: independence/authority/capability/transparency
Policy harmonisation	Developing collaborative and constructive relationships with other policies
Industrial policy	– Providing a necessary supplement to industrial policy – Representing consumer interests in industrial policy formulation – Advocating for competition-friendly and non-discriminative policies
Other policies	– Harmonising with policies such as deregulation, SOE reform, state-owned asset management, telecommunications policy, and so on.
International cooperation	A dual approach by entering into bilateral cooperation agreements and by efforts to promote multilateral cooperation

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Appendixes

SUMMARY (IN DUTCH)

Vanaf eind jaren negentig heeft de Chinese economie een transformatie ondergaan van een central geleide naar een opkomende markt economie. Tijdens dit proces is de economie blootgesteld aan nieuwe concurrentiekrachten; via import, nieuwe toetrederes en verschillende institutionele maatregelen. Vooral inkomende buitenlandse directe investeringen (BDI) vormen een belangrijke nieuwe concurrentiekracht. Deze studie onderzoekt inkomende BDI als een industrieel verschijnsel – hoe beïnvloedt de introductie van BDI als nieuwe concurrentiekracht de ontwikkeling van lokale industrieën. Door een interdisciplinaire aanpak wordt een beter inzicht gegeven het effect van BDI op de industriële ontwikkeling in opkomende markten. Gebaseerd op een multi-dimensionaal, dynamisch en vergelijkende analyse, onderzoekt deze studie vooral de ontwikkeling van twee belangrijke industrieën in China: the auto industrie en de elektronica en ICT industrie. The studie illustreert de belangrijke rol van beleid in het bepalen van het effect van BDI. Het beleid op industrie niveau wordt vooral vormgegeven door toetredingsrestricties en handelsbarrières. Deze studie suggereert dat, in bepaalde gevallen, multinationale en lokale ondernemingen samen zullen werken met het doel een markt te domineren, bijvoorbeeld door het aangaan van internationale *joint ventures*. Dit versterkt the problemen van markt dominantie, het beperkende effect van regulering en welvaart verlies. Deze studie pleit voor een verfijnder en meer op competitie gericht beleidsraamwerk, met de bijbehorende nieuwe instituties en verbetering in bestaande beleidsinstrumenten. Dit raamwerk is van vitaal belang voor gezonde competitie, voor het optimaal benutten van de voordelen en het aanpakken van de nadelen van BDI; allen met het doel om op lange termijn duurzame industriële ontwikkeling te bevorderen.

SUMMARY (IN CHINESE)

在中国经济改革过程中，新的竞争力量通过市场准入和各种制度安排被不断地引入不同行业。外商直接投资是来自国外的竞争力量直接进入中国产业的首要方式。本书研究了外商直接投资对竞争、市场结构和中国产业发展的影响，并提出了相关的政策建议。在对中国经济中新旧各种竞争力量和新的竞争格局进行产业层面分析的同时，本书亦结合对中国经济发展模式的总结对此进行了宏观层面的分析，从而对所谓“中国奇迹”提供了一个独特的解读。

理论上，本书提出了一个分析外商直接投资对产业发展影响的架构，并对传统的静态和动态分析方法进行了必要的拓展和补充。本书探讨了包括溢出效应、关联效应和竞争效应在内的外商直接投资影响产业发展的诸多机制，并分析了转轨经济和新兴市场的特殊环境对外商直接投资作用机制的影响。本书强调了产业层面的政策环境对于外商直接投资和跨国公司进入对产业发展作用的影响，并特别强调了低贸易壁垒和松准入管制对于提高市场的可竞争性，保证一定程度的市场竞争以及促进产业发展的作用。从某种意义上说，本书是对关于竞争性市场体制与中国经济发展关系理论的进一步诠释以及在产业层面和利用外资领域的细化。

在实证方面，本书在跨行业分析的基础上重点对中国汽车和电子信息产业进行了对比分析，从而对不同政策模式对产业发展和跨国公司进入效果的影响进行了概括。本书对外商直接投资和市场竞争对生产能力提高、技术进步、本国企业发展和国际竞争力提升等产业发展各方面的影响进行了全面的分析。定量分析的结论表明，即使在外资大量进入的情况下，竞争的缺乏仍可能存在并造成显著的福利损失，而以严格和歧视性的进入管制和高关税壁垒为特征的限制性产业政策是竞争缺乏和企业市场支配地位形成的主要原因。实证分析的结论也证明了竞争性市场结构对于产业发展的重要作用。然而，在某些竞争性行业中，不必要的管制可能借产业政策之名长期存在，从而限制市场竞争，影响利用外资的效果，并从多方面制约产业的发展。特别是在大企业的发展成为产业政策唯一目标的情况下，消费者的利益很可能被忽略，从而造成企业超额利润和社会净福利损失并存的局面。不仅国有企业，跨国公司也可能成为此类政策的推动者和受益者。“管制俘获”(regulatory capture)假说提供了对这种现象的一个合理解释。

本书旨在通过理论和实证分析为产业层面的公共政策制定提供必要的参考。本书特别强调了一个“竞争友好”(competition-friendly)的政策架构对于确保适度市场竞争，提高利用外资效果和促进可持续产业发展的作用。该政策架构的建立既需要新的政策工具(如竞争政策)的推出，又需要对既有政策工具(如产业政策)的完善。作者希望本研究的结论及相关政策建议能够对中国产业政策和利用外资政策的完善以及竞争政策(反垄断政策)的推出提供有益的参考。

CURRICULUM VITAE

Guoyong Liang is completing his Ph.D. in international business and works at the Rotterdam School of Management, Erasmus University. His current research interests include the theory of the multinational enterprise, business strategy, and business/government interaction. Before his Ph.D. study in the Netherlands, Guoyong Liang was a lecturer at the Shanghai University of Finance and Economics. He was also a fellow at Shanghai Securities and Futures Institute. He has managerial experience in China's financial and ICT sector.

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New Competition: Foreign Direct Investment and Industrial Development in China

Since the late 1970s, China has transformed itself from a centrally planned economy into an emerging market economy. During this process, new forces of competition have been injected into Chinese industries through imports, market entries and various institutional arrangements. Inward Foreign Direct Investment (FDI) has become a crucial channel through which a new competitive force is introduced from abroad. By exploring both the new, as well as the 'old', forces of competition and the new competitive situations emerging in Chinese industries, this study assesses the institutional and economic characteristics of the Chinese model of development and provides a particular interpretation of the much heralded – but less understood – 'Chinese miracle'.

The primary aim of this study is to examine inward FDI as an industrial phenomenon – how the introduction of a new competitive force through FDI inflows influences the development of industries. It offers an interdisciplinary effort to advance the understanding of the FDI impact on industrial development in emerging markets. Based on a multidimensional, dynamic and comparative approach to analysing industrial advancement, this study investigates in particular the development of two Chinese industries – the automotive industry and the electronics and ICT sector. It illustrates the critical role of the policy environment in determining the effects of inward FDI. The policy environment at the industry level is largely defined by both entry restrictions and trade barriers. This study suggests that, under certain circumstances, multinational corporations and domestic firms might collaborate to dominate a market, for instance by establishing international joint ventures. This reinforces the problems of market dominance, regulatory capture and welfare losses. This study also seeks to help policy makers understand the evolution of industries and to provide a fact base for decision making at both industry and national level. It advocates a more sophisticated and competition-friendly framework of public policy, which requires both the introduction of new institutions and the upgrading of existing policy instruments. This framework is vital to ensure the contestability of markets, to reap the benefits of FDI, to tackle the negative effects of FDI and to promote long-term sustainable industrial development.

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ISBN 90-5892-073-9