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**Industrialisation and Regional Development
in Guangdong Province, China: A
Comparative Study of Two Models in the
Post-1978 Period**

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Thesis submitted for the degree of PhD

2016

Department of Economics
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Declaration for SOAS PhD thesis

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Signed: Mei Wu 吳梅

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This thesis is for my family.

Abstract

Against the backdrop of the increasing expansion of global capitalism and the growing powers of transnational corporations (TNCs), this thesis explores the mechanisms and effects of local initiatives in industrial development. In particular, it presents a detailed analysis of industrialisation and regional development in the Pearl River Delta, China, beginning in the year 1978 when China began its reform and opening. A comparative study of two distinct models adopted by Dongguan and Foshan is used to illustrate differences between export oriented production dominated by TNCs, and domestic market oriented production dominated by locally-owned enterprises. The discourse is developed within the framework of global production networks (GPNs), focusing on their performance when coupled with the demands of the lead firms of GPNs.

Dongguan and Foshan have both achieved rapid industrialisation and regional development over the past thirty years. Although sharing common starting points and similar regional assets, their development paths have significantly diverged since the 1990s when China furthered its reform. Dongguan has represented a typical case of a host region run as a processing and assembly base for TNCs, while Foshan has developed localised GPNs, consisting of local lead firms and strategic suppliers, by taking advantage of China's domestic market.

Illustrated through cases studies, this thesis argues that the differences between the two models highlight issues of firms' ownership and local power relations. Using quantitative analysis, it is demonstrated that Dongguan has maintained a labour-intensive strategy, and Foshan has engaged in a process of capital deepening.

Although the development of Dongguan has been in line with a canonical neoclassical view, Foshan, which has made greater gains in overall efficiency, productivity and financial performance, offers an alternative feasible development model.

Table of Contents

Acknowledgements	3
Abstract	4
Table of Contents	6
List of Figures	9
List of Tables	11
List of Abbreviations	12
Chapter 1 Introduction	16
1.1 Changing development strategies in a globalised world	16
1.2 Research objectives	21
1.3 Research framework	23
1.4 Research questions	27
1.5 The organisation of the thesis	27
Chapter 2 Literature Review	29
2.1 Industrial districts and clusters	29
2.1.1 The development of the concepts of industrial districts and clusters.....	29
2.1.2 The elements of industrial districts and regional clusters	36
2.1.3 Other types of industrial districts/clusters.....	47
2.2 Global commodity chains (GCC) and Global value chains (GVC)	50
2.2.1 Global commodity chains (GCC)	52
2.2.2 Global value chains (GVC).....	55
2.3 Comparison of the cluster and GVC	65
2.4 Global production networks (GPN)	68
2.5 GPN and the study of the PRD area	76
2.6 Methodology account	79
Chapter 3 Guangdong Province and the PRD Area	82
3.1 The Overview of Guangdong Province	82
3.1.1 The Economic Development of Guangdong.....	82
3.1.2 The assessment of Guangdong’s economic development.....	89
3.2.1 Overview of the PRD area	93
3.2.2 Labour shortages and environmental issues	98

3.3 The industrial agglomeration of the PRD area—specialised township	107
3.3.1 The early development of the specialised township—TVEs and the role of the governments	109
3.3.2 Characteristics of the specialised townships	118
3.4 The Case of Guangdong through the Lens of the GPN.....	124
Chapter 4 The Industrial Development of Dongguan.....	127
4.1 The general economic development and institutional change in Dongguan	127
4.2 The processing trade of Dongguan.....	138
4.2.1 The increasing dominance of FIEs.....	138
4.2.2 Increasing participation in global production networks.....	142
4.2.3 The labour-intensive development model	162
4.3 The Cluster of electronics in Dongguan.....	165
4.3.1 Taiwan’s participation in the development of electronics industry.....	166
4.3.2 Case study: the electronics industrial development in Shijie town.....	175
4.4 Local institutions and path dependency of Dongguan	180
4.5 The Case of Dongguan through the Lens of the GPN	188
Chapter 5 The Industrial Development of Foshan.....	191
5.1 The economic development of Foshan and the role of government.....	191
5.1.1 The start of reform and opening	191
5.1.2 The ownership reforms in Foshan and Shunde	195
5.2 The industrial agglomeration of Foshan	206
5.2.1 The specialised township of Foshan	206
5.2.2 Overview of Shunde’s economy	210
5.2.3 Regional cluster—furniture industry.....	215
5.2.4 Regional innovation system (RIS)—household appliance industry	222
5.3 The Case of Foshan through the Lens of the GPN	231
Chapter 6 Comparative Study of Dongguan and Foshan	235
6.1 Average Firm Scale.....	235
6.2 Output-Capital Ratio	239
6.3 Productivity Performance.....	240
6.4 Rates of pre-tax profit	243
6.5 Discussion through the lens of the GPN	247
Chapter 7 Conclusion	250

7.1 The industrialisation of Guangdong and the specialised township economy	250
7.2 The regional development of Dongguan and Foshan	253
7.2.1 The regional development of Dongguan	254
7.2.2 The regional development of Foshan	257
7.3 Conclusions from Comparative Studies of Dongguan and Foshan	259
7.4 The implication of Dongguan and Foshan’s development	263
7.5 Limitation of the thesis and prospects for future research	265
Appendix 1 A list of interviewees	268
Appendix 2 Data sources of the case study	269
Bibliography	270

List of Figures

Figure 2.1 A framework for analysing regional development and global production networks	73
Figure 3.1 Map of Guangdong's location	83
Figure 3.2 Provincial annual GDP, 1978-2012	90
Figure 3.3 Relative labour productivity of Guangdong, 1996-2013	92
Figure 3.4 TFP levels of manufacturing sector: Guangdong relative to China, 1994-2012	92
Figure 3.5 The PRD area, the northern mountainous area, and the western and eastern wing areas.....	95
Figure 3.6 Cities' contribution to Guangdong's industrial output value, 2012.....	96
Figure 3.7 Firms' production modes in the PRD area, 2005-2006.	97
Figure 3.8 The change of permanent population in the PRD area, 2000-2012.....	100
Figure 3.9 Employment in Secondary and Tertiary Industries of Guangdong Province, 1991-2013	101
Figure 4.1 The actual utilised foreign capital flow in Dongguan (by countries or regions), 1995-2013	145
Figure 4.2 Trade balance between Dongguan and its main Asian trading partners	150
Figure 4.3 Relative labour productivity of OCIEs and FIEs of Dongguan, 1998-2013	163
Figure 4.4 Change of Dongguan's migrant population in Industry, 1991-2013	165
Figure 4.5 Map of specialised township of Dongguan	166
Figure 5.1 Shares in Foshan's firms above designated size with different ownership .	202
Figure 5.2 Shares of industrial output value of Foshan's firms above designated size with different ownership, 1998-2013	203
Figure 5.3 Relative labour productivity of Limited Liabilities, POEs, OCIEs and FIEs of Foshan, 2001-2013	206
Figure 5.4 Map of Specialised Township of Foshan.....	208
Figure 5.5 Output value of Shunde industrial firms divided by size, 2005-2010	211

Figure 5.6 The furniture cluster of Shunde	217
Figure 6.1 Average firm scale of Dongguan and Foshan (industrial value-added), 1994-2013	237
Figure 6.2 Average firm scale of Dongguan and Foshan (labour employment), 1994-2013	238
Figure 6.3 Output-capital ratio of Guangdong, Dongguan and Foshan, 1994-2013.....	240
Figure 6.4 Relative labour productivity, total factor productivity of Dongguan and Foshan, 1994-2013.....	242
Figure 6.5 Total factor productivity: Dongguan and Foshan relative to Guangdong province, 1994-2013	243
Figure 6.6 Rates of pre-tax profit of Guangdong, Dongguan and Foshan, 1998-2012.	244
Figure 6.7 Value-Added Rate of Processing Trade of Dongguan and China, 1993-2011	247

List of Tables

Table 2.1 Determinants of governance in value chains.....	57
Table 2.2 Governance and upgrading: the cluster vs. the value chain	67
Table 3.1 Guangdong province in the national economy, 2012	87
Table 4.1 Processing trade and general trade of Dongguan, 1993-2011.....	139
Table 4.2 Shares of different ownership enterprises of total processing trade in Dongguan	147
Table 4.3 Statistics of Dongguan and Asian trading partners, 2008-2010	148
Table 4.4 Shares of trading partners in Dongguan’s total imports of processing trade	149
Table 4.5 Shares of trading partners in Dongguan’s total exports of processing trade .	149
Table 4.6 Shares of main exports of total exports in Dongguan, 1993-2011	158
Table 4.7 Main imports of Dongguan, 1993-2011	159
Table 4.8 Deficit report of Dongguan rural collective economy, 1989-2005	184
Table 5.1 The industrial firms of Shunde with an output value of over 10 billion yuan, 2005 and 2010	212
Table 5.2 The Income of Main Industries of Shunde, 2010.....	213
Table 5.3 Shunde’s production output of household appliances in comparison with Guangdong province, 2005 and 2010	222

List of Abbreviations

ARATS	Association for Relations Across the Taiwan Straits
ASEAN	Association of Southeast Asian Nations
ATM	Automatic Manufacturing
BRIC	Brazil, Russia, India and China
CAD	Comparative Advantage Defying
CAF	Comparative Advantage Following
CAM	Computer Aided Manufacturing
CCP	Chinese Communist Party
CGI	Computer Graphics Interface
CNAS	China National Accreditation Service for Conformity Assessment
CNC	Computer Numerical Control
COE	Collective-owned Enterprise
CPU	Central Processing Unit
C2C	Consumer-to-Consumer
CVE	Chinese and Foreign Cooperative Venture Enterprise
DGAEFI	Dongguan City Association of Enterprises with Foreign Investment
EU	European Union
FAW	First Auto Works
FDI	Foreign Direct Investment
FGP	Flying Geese Paradigm
FIE	Foreign Invested Enterprise
GAIG	Guangzhou Automobile Industry Group
GATS	General Agreement on Trade and Service

GCC	Global Commodity Chain
GDP	Gross Domestic Product
GPN	Global Production Network
GREMI	Groupe de Recherche Européen sur les Milieux Innovateurs
GVC	Global Value Chain
HS	International Convention for Harmonized Commodity Description and Coding System, short for Harmonized System.
IC	Integrated Circuit
ICOR	Incremental Capital-Output Ratio
ICT	Information Communication Technology
IDS	Institute of Development Studies
IMF	International Monetary Fund
ISI	Import Substitution Industrialisation
ISO	International Standardisation Organisation
IT	Information Technology
JIT	Just-in-Time
JVE	Chinese and Foreign Joint Ventured Enterprise
LDC	Less Developed Countries
LED	Light Emitting Diode
NGO	Non-Government Organization
NID	New Industrial District
NIE	Newly Industrial Economy
NPL	Non-Performing Loan
OBM	Original Brand Manufacturing
OCIE	Overseas Chinese Invested Enterprise

ODM	Own Design Manufacturing
OEA	Original Equipment Assembling
OEM	Original Equipment Manufacturing
OLED	Organic Light Emitting Diode
PC	Personal Computer
POE	Private-owned Enterprise
PRD	Pearl River Delta
R&D	Research and Development
ROHS	Restriction of the Use of Certain Hazardous Substances
SAR	Special Administrative Region
SEF	Straits Exchange Foundation
SEZ	Special Economic Zone
SIP	Suzhou Industrial Park
SME	Small- and Medium-sized Enterprise
SOE	State-owned Enterprise
TAF	Taiwan Accreditation Foundation
TFP	Total Factor Productivity
TFR	Total Fertility Rate
The US	The United States
TNC	Transnational Corporation
TPC	Territorial Production Complex
TRIMS	Trade Related Investment Measures
TRIPS	Agreement on Trade-related Aspects of Intellectual Property Right
UK	United Kingdom
UN	United Nations

UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
VAT	Value Added Tax
WFOE	Wholly Foreign owned Enterprises
WTO	World Trade Organisation
YRD	Yangzi River Delta

Chapter 1 Introduction

1.1 Changing development strategies in a globalised world

The “East Asian Miracle”¹ (The World Bank, 1993) and the failure of Latin America’s “Import Substitution Industrialization (ISI)”² are prominent paradigms of development economics. In the neo-classical account, they are regarded as typical proof that following comparative advantages is indispensable, which provides the most competitive or optimal path for a country’s development. In such accounts, the comparative advantages must be consistent with the factor endowment, which at the early stages of development is typically characterised by a relative scarcity of capital and relative abundance of labour and/or natural resources (James, 1989; World Bank, 1993). In contrast, the structuralists in development economics tend to advocate for deliberately creating comparative advantages by promoting technological advancement, which has traditionally been left exogenous in the orthodox doctrine (Amsden, 1989, Wade, 2004 [1990]). However, both sides accept that labour-intensive, export-oriented industrialisation has played an important role in East Asia’s experience. Both accounts acknowledge the role of the state in this process, though they agree on the importance of this factor to different extents.

¹ In 1993, the World Bank published a report titled “The East Asian Miracle: Economic Growth and Public Policy”, which was considered to be a watershed in mainstream thinking on the development of East Asia. It claimed that the successful experience of the East Asian countries and regions, particularly Japan, Korea, and Taiwan was due to extensive government intervention in markets. See World Bank (1993).

² Unlike export-oriented industrialisation promoted by East Asian countries, Latin American countries focused on import-substitution, and had selective restrictions on foreign direct investment (FDI) from the period after World War II until the 1980s. ISI is considered to run counter to the economic theory of comparative advantage, where countries specialise in the production of goods in which they have a particular advantage, and then engage in international trade. The countries in Latin America sought to protect local industries (mainly infant industries and heavy industries) through various avenues such as tariffs, import quotas, manipulating exchange rates and subsidised government loans. However, the exports of most countries that had practiced an ISI strategy often experienced relatively slow growth, and on the contrary, a sharp increase in demand for imported capital goods. Both led to critical foreign exchange shortages and force most countries that adopted the strategy to reduce imports. Cutbacks in imports in turn had the effect of reducing growth rates, leading many countries to stagnation or recession.

Developing countries operate today in a global multipolar world quite different from four decades ago, when Japan and the Four East Asian Tigers first emerged. Globalisation and liberalisation have spread with the development of international trade. Transnational corporations (TNCs) normally headquartered in developed countries have found it more efficient to outsource parts of uncompetitive businesses to developing countries, and to maintain their competitive advantages in research and design (R&D), marketing and other high value added parts in headquarters. By doing so, developing countries have been able to participate in global production systems, which has normally begun from a combination of labour intensive processing manufacturing, raw material supplies and lower value-added parts. Relying on their comparative advantages of labour and raw material resources, East Asian NIEs and a number of NIEs of ASEAN (Association of Southeast Asian Nations)³ implemented their economic take-off through the manufacturing of processing and assembling. China, especially the eastern coastal region, has also benefitted from sub-contracts distributed by TNCs and developed countries.

However, the problem of maintaining growth and eventually catching up with developed countries in the context of globalisation has remained vaguely articulated. Indeed, no Asian countries or regions other than Japan and the “four East Asian tigers”⁴ have

³ ASEAN is a geo-political and economic organisation of ten countries located in Southeast Asia. It was formed on 8 August 1967 by Indonesia, Malaysia, the Philippines, Singapore and Thailand. Since then, membership has expanded to include Brunei, Burma, Cambodia, Laos, and Vietnam. Besides Singapore, the other four founding members have also been considered to be in the “Tiger Cub Economies” due to their rapid economic development in the 1990s, in common with the East Asian Tigers of the 1980s. However, the financial crisis that began in Thailand spread rapidly to other Southeast Asian countries, and soon affecting the world economy. All the Southeast Asian tigers were severely affected by currency devaluation, stock market crashes and sharp economic decline. The crisis had the effect of causing re-evaluations of the Tigers’ defective financial systems, brittle economic foundations and heavy reliance on foreign capital. In recent years, although their economic performance fell short of that in the first half of the 1990s, the tigers maintained stable growth rates, above the average for the world (2000 to 2007: 3.3 percent), see Yusuf and Nabeshima (2009).

⁴ The four East Asian tigers is a term used in reference to the four regions and countries - Hong Kong, Taiwan, South Korea and Singapore - which achieved rapid industrialization and maintained exceptionally high economic growth during the 1970s and 1990s. Before this period, all of these countries were dominated by agriculture and light industry. They benefited from both the transfer of labour intensive industries from Western countries, and FDI and foreign funds during the Cold War era. The Four East Asian Tigers thus became emerging regions and countries after Japan and important economic engines for East and Southeast Asia. See Johnson (1982), Amsden (1989), Wade

successfully upgraded from less-developed countries (LDCs) to advanced industrialised nations. Nor has the problem been explicitly towards how developing countries would be able to maintain steady development. Rather, the third-tier Asian Newly Industrial Economies (NIEs)⁵, which started out with similar aspirations and comparative advantages, have instead experienced a more tortuous journey, still yet to end. It can be observed that these developing countries have attained rising value of manufacturing to GDP, but with no corresponding increase in domestic technological capability and share of world income. For example, Malaysia, one of the leading ASEAN countries, has yet to build an indigenous capacity to design, innovate, and diversify into new and more profitable areas with good long-run prospects. Additionally, very few local firms have created global or even regional recognition and popularity even though the government has exerted considerable efforts to improve manufacturing quality and skills or R&D (Yusuf and Nabeshima, 2009).

Unlike the orderly industrial transformation between countries described with reference to the *Flying Geese Paradigm* (FGP)⁶, as more and more developing countries have joined global networks, Kaplinsky (2000, 2001) finds that transnational outsourcing has posed fierce low-cost competition, which has usually led latecomers towards the phenomenon of a “race to the bottom” and “immiserating growth”. TNCs have remained firmly in control of global production and profits distribution, preventing suppliers from

(1990[2004]).

⁵ Normally, Japan is regarded as the most advanced country in Asia, while the “four East Asian tigers” belong to the second tier of Asian NIEs, and the third tier consists of the main middle-income countries of ASEAN—Indonesia, Malaysia, the Philippines and Thailand.

⁶ The Flying Geese Paradigm was developed in the 1930s, but gained wider popularity in the 1960s after its author Akamatsu published his ideas in the *Journal of Developing Economies*. The V formation of flying geese is the metaphor for the industrial development process in open economies: A given industry in a high-income country faces rising costs over time, and it moves production offshore to cheaper locations by establishing subsidiaries or sub-contractors, or else it relies on imports of the products from independent companies in the cheaper locations. Eventually, as costs rise in the second tier economies, the production begins to transfer down to the next “goose” (lower cost site). During the process of transfer, the impulse for development comes from the top tier which has caused many to label the FGP a top-down model. Transfer is considered to be beneficial to latecomers on account of diversifying their production mix and bringing up-graded production technologies. More modified versions of the FGP have been developed in recent decades. One presented by Ozawa stresses the importance of MNCs as a vehicle for technology transfer. See Akamatsu (1962), Ozawa (1992).

acquiring independent innovation capabilities, and creating the syndromes of “lock-in” or “captive” at lower value-added parts. The international trade organisations and agreements initiated and organised by western countries are not in favour of developing countries as well. Although globalisation and liberalisation encouraged the free flow of capital and technology, the space for developing countries has been restricted. Wade (2003) argues that the agreements proposed by the World Trade Organisation (WTO) have limited domestic industrial development of developing countries. For example, the three big agreements that came out of the Uruguay Round, i.e. investment measures (TRIMS), trade in services (GATS), and intellectual property rights (TRIPS), forbid host governments from interfering in the market, ban the requirement of public agencies to procure goods from local suppliers and allow TNCs freedom to engage in business in the host country. Ul Haque (2007) considers that bilateral or regional trade agreements even expanded the range of disciplines beyond the WTO text, further eroding the space available to developing countries. He cites the United States (U.S.) pushing for tighter restrictions in areas of investment regulations, intellectual property protection, and capital accounts whenever it negotiates a free trade agreement with a developing country. He argues that the general lowering of trade barriers has not brought the world any closer to the standard “free trade”, but has mostly enhanced a process controlled and driven by the TNCs. Moreover, although it is well recognized that much of the world’s population has gained from a globalised production system, and the proportion of the population living in absolute poverty has been reduced in the past half century, inter- and intra-country inequality has nonetheless grown as globalisation has proceeded (Kaplinsky, 2005, Reinert, 2007, Hulme, 2010, Acemoglu and Robinson, 2012). Additionally, due to the development of science and technology, alternative ways have increasingly emerged to replace labour or natural resources, such as smart robotic production line and shale gas, which has tended to worsen the situation for already lagging economies.

As global capitalism expands and the growing economic and political powers of transnational corporations (TNCs) becomes more pronounced, the developmental role of the state may be a necessary condition but insufficient for regional development to take place (Yeung, 2009a). Since most “rules of the game” are set by powerful global actors and by international quality standards, what are the roles played by regional⁷ factors, such as specific regional assets, national and local states, local collaboration and co-operation, etc. in industrial development? How is it possible to enhance regional competitiveness if the goals of TNCs and local institutions and firms are not the same, or are even conflicting?

The global economy has been always dynamic. The structure of the global political economy has experienced significant changes, especially since the global financial crisis of 2008. It has caused a considerable slowdown in most developed countries while developing countries were also severely affected because of the collapse of the western market. However, a few developing countries with rising wealth have emerged gradually as international investors and consumers (for example, China and India). It has brought them more political presence and stronger say on major international issues. Hence, this raises concerns about how global-local interactions would be conducted as a result of those changes, as well as regional development paths in developing countries. Furthermore, restructuring since the mid-2000s, especially in the aftermath of the global financial crisis, it has seen domestic markets in some developing countries emerge, signaled by, among other factors, the growth of the middle class in these countries. It is apparent that developing countries have leveraged more bargaining power while TNCs have needed to adapt their strategies and supply chains as a result. At the same time,

⁷ Since the research objectives of this thesis are limited to localities in developing countries, the term “regional” and “local” hereafter denotes belonging to localities of developing countries, except as otherwise noted.

relative efficiencies and cost structures have changed, and production is becoming more complex—changes in the location of production are underway as some new locations open up and others seem less advantageous (Cattaneo et al., 2010, Elms and Low, 2013). All of these shifts in global economic structures and organisation have brought with them many challenges for governments, business and society at large in developing countries.

Under these circumstances, the theoretical understanding and policy implication of the path for developing countries to converge with developed ones requires a re-examination. Should they follow strictly a given comparative advantage, and hence a pattern of specialisation that is strictly dictated by the world market, or deliberately create an alternative path? Or in other words, should developing countries conform to the strategy of comparative advantage following (CAF) or comparative advantage defying (CAD)⁸? Hence, this thesis attempts to develop an updated understanding of industrialisation and regional development in developing countries in the dynamic context of globalisation, and discusses broader implications for the role of the local state during the process.

1.2 Research objectives

Due to its remarkable development over the past three decades, the case of China is highly apposite in the context of exploring industrial development models for developing countries. Yet because of its vast territory, it is also very unique in that its regions are

⁸ Although the role of state in the successful developers is increasingly recognised, the role of industrial policy in the successful developers is underplayed. One of the most representative and updated debates between neoclassical and development economists is “should industrial policy in developing countries conform to comparative advantage or defy it?”. Lin raises the argument of CAD and CAF. He states that comparative advantage should be the prime guideline for economic development of a developing country, and the role of government should be limited as a facilitating role. However, Chang shares a different perspective with Lin in terms of the way of intervention, and argues that it is not possible for a backward economy to accumulate capabilities in new industries without defying comparative advantage and actually entering the industry before it has the peculiar endowments, therefore, it will definitely need the strong government intervention (Lin and Chang, 2009).

highly diversified, and thus worth studying from a regional perspective.

This thesis that chooses the province of Guangdong, one of the most developed provinces in China today, as the research objective is based on my long-termed observation. Before I started my PhD study, I was a reporter of a Hong Kong-based newspaper. I had engaged in China news report for seven years, including two years (2003-2005) in Guangdong, where I was born and grew up. Guangdong was an agricultural province far from the centre of China before 1979. It has neither abundant natural resources nor solid industrial foundations and a large number of privileged SOEs. Guangdong had been one of the provinces that at the forefront of China's reform and opening since early 1980s. Now, it has the highest Gross Domestic Product (GDP) in the country, but also has one of the biggest social and economic disparities within its geographic territory (World Bank, 2011). During the period in which it started to participate in international distribution of labour, it became the largest recipient of foreign direct investment (FDI) (it has been overtaken by other provinces in recent years), accounting for about a quarter of the national total by 2012.

I witnessed Guangdong's rapid economic growth after China's accession to WTO when I worked in China, especially the dramatic growth of Dongguan's export processing trade, as well as the rebirth of Foshan's locally-owned enterprises after a ten-year-long ownership reform. The two particular cities are located in the Pearl River delta (PRD), one of the most developed areas of China. Their development are both greatly inspired and influenced by overseas Chinese and foreign⁹ capital and investors. However, they have had markedly divergent development paths, and have been the subject of heated

⁹ The terms "foreign investment" and "foreign invested enterprises (FIE)" in this thesis mean investments and enterprises headquartered outside China, excluding Hong Kong, Taiwan and Macau. The terms of "overseas Chinese investment" and "overseas Chinese invested enterprises (OCIEs)" are used in reference to the latter three.

debates in recent years, but few of which have developed in the context of academic discussions. After leaving Guangdong, I have kept close attention on the development of the region, and have the passion to do the research of the two distinct development models. Therefore, my thesis examines Dongguan and Foshan as subjects of research.

Benefited from my working and living experience in Guangdong, I have got some useful published data (but not easily publicly available) for my research. I also made interviews with anonymous government officials, managing operators of enterprises, heads of chamber of commerce, and news reporters during my fieldtrip in Dongguan, Foshan and Guangzhou which is the capital of Guangdong province (August, 2012, and August, 2013).

1.3 Research framework

Industrial districts and regional clusters are geographic concentrations of interconnected firms in one or more related industries. They are regarded as enhancing regional competitiveness by gaining economies of scale. Literature on industrial districts and clusters has developed since Marshall (2001, [1892]). Since the 1980s, related research has increasingly stressed the significance of innovative milieu raised within clusters for promoting regional competitiveness. In this regard, the critical tacit knowledge transfer and generational innovativeness have been confined to local regions. Hence, the key competitiveness of a region has been cultivated in a milieu where related industrial firms have agglomerated and communicate frequently on innovation in a localised community. Later, Markusen (1996, 1999) and Huggins (2008) have explored some exceptional cases, demonstrating the significance of external linkages. However, most of these cases focus

on high-tech industries and developed countries. In other words, this exceptional literature is still short on accounts that focus on relatively traditional industries, and on discussions of cases in developing countries.

The literature on clusters has been concerned primarily with intra-cluster relations, and is optimistic about the possibility of fostering competitiveness through local governance. However, as the emergence of modularised production and globalisation that is usually dominated by TNCs, the cluster approach has been criticised as having overly focused on endogenous dynamism rather than exogenous linkages, paying inadequate attention to interaction between local and global governance. Comparing tacit knowledge that is normally confined to a local milieu, coded knowledge that is brought up in a global context has become universally accessible with the development of information and communication technology. This modularised type of production has promoted a paradigm shift over the past two decades from analysing endogenous factors to analysing external linkages in the global economy in both academic and policy fields. Therefore, the globalist perspectives such as the global commodity chains (GCC) and global value chains (GVC), and global production networks (GPN) have challenged the concepts of industrial districts and clusters.

The research on GCCs/GVCs done by Gereffi et al. (Gereffi and Korzeniewicz, 1989, Gereffi, 1999a, b) since the 1990s offers a framework for understanding organisations, and their resources and value allocation in a global context. The global value chain represents all the activities from conceptualisation of a product to its final utilisation, which firms and institutions engage in. The study of GVCs has focused on the relationship between the identification of governance of the value chain, and the potential upgrade for a participant from a developing country. Upgrading is commonly defined as

increasing competitiveness by capturing a part of the value chain that involves higher value-added activities. This can be achieved by expanding the spectrum of products and services a firm offers, the complexity of a product that is produced, or improving the technology that is utilised in the process of production (Thun, 2008).

However, the chain approach of GCC/GVC has been criticised for its narrow focus on inter-firm governance, and overemphasis on the role of lead firms in the governance of chains. Meanwhile, they have not paid sufficient attention to interactions with regional actors, including regional institutions, local states, social circumstances and historical heritage, all of which are likely to contribute to a build-up of path dependence, and the relative bargaining power of regional actors with TNCs (Henderson et al., 2002, Coe et al., 2004). Compared with the linear structure of GCC/GVC, the GPN framework aims to emphasise the complex firm networks and territorial institutions that are involved in all economic activity, and how these are structured both organizationally and geographically. Hence, GPN are not only economic phenomena, but also fundamentally social, cultural and political systems (Levy, 2008). The study of GPNs thus attempts to investigate all relevant actors and relationships rather than a series of decontextualized factors. In this sense, the comprehensive and inclusive GPN framework is suitable for the study of Chinese cases the political and social systems of which are usually not considered by Western assessment criteria.

Furthermore, in the perspective of the GPN, regional development is an important issue that is distinguished from GVC research. Mackinnon (2012) comments that this is a major contribution made by the GPN approach to the rethinking of regional development in relational terms, namely to “globalised” regional development. Regional development can be achieved through its strategic coupling with the needs of global lead firms. Yeung

(2009) has conceptualised this process in the following terms: “In the context of urban and regional development, strategic coupling refers to the dynamic process through which actors in cities and/or regions coordinate, mediate, and arbitrage strategic interest between local actors and their counterparts in the global economy”. Meanwhile, recoupling and decoupling have been used to describe the results of regional selection and abandonment processes, indicating uneven regional socioeconomic development that is unmatched with the dynamic demands of GPNs. Hence, regional development is a product of the “strategic coupling” between GPNs and regional assets. Mackinnon (2012) considers that the central concept of strategic coupling highlights the dynamic processes by which regional assets are matched to the strategic needs of lead firms in GPNs, with regional institutions playing a key role in the process. Moreover, the GPN framework is raised on three principle elements, namely value, power and embeddedness. These elements facilitate the performance of local regions when they are articulating and coupling with the GPNs. This feature of the GPN framework thus matches the theme of the thesis which explores the regional development in a globalised period.

As a newly-developed research framework, the GPN is being criticised that most of its current study mainly concerns with inter-firm governance, similar to research on GVCs, but its interaction with local social and political circumstances, especially in developing host regions requires further discussion. This thesis therefore intends to enrich the literature of the GPN in terms of elaborating on conceptual extension and empirical text. By analysing the cases of Dongguan and Foshan, the thesis will particularly interpret the process of their coupling with the lead firms of GPNs, and the underlying relationships between TNCs and local firms, regional institutions and local states at different administrative levels. Therefore, a key objective of this thesis is to produce a better understanding of the complexity of global production network, economic globalisation,

and its interaction with territorial development.

1.4 Research questions

Granted the necessary existing external linkages, the thesis intends to explore and compare the mechanisms and effects of local initiatives in fostering the process of strategic coupling with the lead firms in GPNs. As such, this thesis seeks to answer the following questions:

What development models have been used by Dongguan and Foshan to realise their industrialisation and regional development respectively? What are the differences between the development models of Dongguan and Foshan? What accounts for differences between them?

Have these models generated, enhanced and captured value during the development process? What are the roles played or what power has been exercised by lead firms, local firms and institutions?

What are the implications of these two development models for the theoretical and empirical literature of the GPN?

1.5 The organisation of the thesis

The thesis is organized into seven chapters. Chapter Two presents a review of the literature in order to identify theories that are relevant and beneficial to the research, with

a discussion of the strong and weak points and shortfalls or gaps of industrial districts, global value chains and global production networks. This chapter will furthermore propose an analytical framework for analyzing research questions by studying the two cases of Dongguan and Foshan.

Chapter three through to chapter six are the thesis' core chapters, in which archives and empirical data about the two cases are analyzed. Thus, chapter three introduces a review of Guangdong province and the PRD area, interpreting its export-oriented development path, and the foundations of its industrialisation as a specialised township economy. Chapter four and chapter five elaborate on the development models of Dongguan and Foshan separately by investigating the structure of local production networks, the power and resource allocation of leading firms, suppliers, local states and institutions, and their interactions. The important economic changes and landmark industrial policies of the province and the state will be discussed as well so that a comprehensive perspective on economic, social and political context can be identified. The comparative research of the two different cases is presented in chapter six, with substantial quantitative assessment of their industrial structure, productivity performance and financial performance.

Chapter seven aims to set out a complete explanation of the development of GPNs in the region-specific cases, and suggests implications for a wider frame of reference relevant more broadly to the issue of industrialisation and regional development. This chapter concludes the thesis by presenting findings of the research questions above, policy implications and final recommendations and comments. The thesis' limitations are also explained in this chapter.

Chapter 2 Literature Review

Regional growth and development needs to be considered in a global context, while still considering its local social-cultural embeddedness. Section 2.1 introduces the frameworks of industrial districts and clusters, focusing on their definition, evolution and elementary features. Section 2.2 introduces the frameworks of global commodity chains and global value chains, focusing on their definition, evolution and discussions on the issues relating to governance and upgrading. Section 2.3 further elaborates the comparison between clusters and chains in the issues of governance and upgrading. Section 2.4 offers a newly developed framework of global production network, which can be regarded as a globalised version of clusters, and a regionalised version of the global chains.

2.1 Industrial districts and clusters

Both industrial districts and regional clusters are geographic concentrations of interconnected firms in one or a few related industries. But there exist differences between the two notions. Marshallian industrial districts generally refer to small, locally owned, and autonomous firms within a rich socially-embedded milieu (Becattini, 1990, 2002). The study of clusters is taken from the perspective of the core firms' domination (Porter, 1998b), which is similar to Markusen's (1996) "hub-and-spoke" model.

2.1.1 The development of the concepts of industrial districts and clusters

The earliest development of industrial districts was the outcome of economic savings made possible through a reduction in transaction costs because of spatial proximity. Marshall (2004 [1892]) was the first scholar to bring up the terms of “industrial districts”, which are “...concentration[s] of specialised industries in particular localities”. He identified three main sources of externalities arising from geographical agglomerations—local skilled labour force pooling, local supplier linkages and local knowledge spillover. First, Marshall explained that local labour markets within industrial districts are highly flexible, but are typically committed to staying in the district. Second, suppliers working alongside a concentration of same-industry firms are more likely to make industry-specific investments, reducing transportation and coordination costs for the buyer firms. Third, firms with similar products might have very different production processes, but some of them have proved to be more productive than others. With these conditions, the relatively more productive process is more likely to spread to neighbouring firms over time, thus improving efficiency and lowering costs of the whole group of firms. Marshall’s original formulation of the industrial district stipulates that it is a region comprised of small locally owned firms, often entailing long-term contracts or commitments. Linkages and cooperation with firms outside the industrial district appeared to be minimal. Marshall also observed that the local environment is inclusive of both business relationships and other socio-cultural aspects of the locality.

Later, Weber (1962 [1909]) formulated the theory of industrial location in which firms benefited from being close to a large supply of intermediate input producers, thus promoting the agglomeration of the firms in those particular locations. He proposed factors that would determine the location of industry, and classified them into two divisions: regional factors (primary causes), and agglomerative and deglomerative factors (secondary causes). Regional factors influenced the location of factory plants over

different regions. According to Weber, transport costs and labour costs were the two regional factors on which his theory was based. Agglomerative and deglomerative factors (secondary causes) led to concentration or dispersal of industries¹⁰. Yet Weber's theory was criticized as purely theoretical and overly simplistic. Due to its consideration of only a few selected factors, it was observed that it did not consider many other factors that would influence the selection of location, e.g. historical and institutional factors. His assumptions also isolated the effect of transportation costs on location while holding all other variables constant. Weber emphasised that the calculation of transport costs on the basis of weight and distance was paramount, but in fact, transportation costs were more likely to be calculated on the basis of type of transport, quality of goods and rates of different transport agencies. The labour cost, demand and processing costs were constant in Weber's model, which was far from reality.

Furthermore, Weber's proposition came into prominence before Keynesian macroeconomics, emphasising government interference, which had prevailed since the 1930s. Weber believed that the agglomeration of firms rose from bottom-up and was generated spontaneously by the pursuit of benefits. In contrast, the theories of growth poles and territorial production complexes, influenced by Keynes, argued that regional development relied on top-down promotion by government. The debate about the motivation of spatial agglomeration was intertwined with numerous issues related to politics, institutions, culture, globalisation and localisation, etc. It thus made economic geography on industrial locations able to be considered, far beyond where it started.

The publication of Krugman's *Increasing Returns and Economic Geography* (1990) and

¹⁰ In the case of agglomeration, firms improved productivity by increasing their economies of scale that benefited from agglomeration. However, after reaching an optimal size, local facilities might become over-taxed, have increasing production cost, leading to an offset of initial advantages. Then the force of agglomeration might be gradually replaced by other forces resulting in deglomeration.

Porter's the *Competitive Advantage of Nations* (1990) reassess the significance of industrial localisation and spatial agglomeration in regional competitiveness. They have revitalised the discussion of regional development and growing interests in the spatial distribution and their impact on economic development.

The new geographical economics introduced by Krugman has developed from new trade theory (Helpman and Krugman, 1985). Krugman considers external economies of scale and tries to connect the location theory with the economics of imperfect competition, increasing returns, path dependence and cumulative causation. In his view, in a world of imperfect competition, international trade is driven as much by increasing returns and external economies as by comparative advantage. Furthermore, the external economies are more likely to be realised at local and regional scale than at national or international level. In order to realise scale economies while minimizing transport costs, firms tend to locate in the region with larger demand, but the location of demand itself relies on the distribution of manufacturing. Hence, the emergence of a core-periphery pattern is decided by transportation costs, economies of scale, and the share of manufacturing in national income (Krugman, 1990). Later Fujita and Mori (1996) further the discussion of agglomeration economies and the hub-effect of transport nodes interplayed in the making of major cities.

Krugman also argues that "history matters", that an economy's form is determined by contingency, path dependence, and the initial conditions set by history and accident. He argues that a high degree of persistence over time can operate either to foster regional growth or to retard it, but he fails to include these intuitional factors into his model or give them clear identification. Furthermore, his perspective and approach have also been criticized for their neglect of geographical impacts of technological and knowledge

spillovers and other externalities that cannot be mathematically modelled (Martin and Sunley, 1996).

Porter (1990, 1998a, 1998b) is not the first scholar to have brought up the term *cluster*¹¹, but only after he introduced it to his comparative study on international competitiveness of 10 developed countries including the U.S. and the UK, did the study of clusters become a highly-discussed research topic in different fields of social science. He defines the cluster as “a geographically proximate group of interconnected firms and associated institutions in a particular field, linked by commonalities and complementarities, and clusters facilitate productivity increases, higher innovation rates and faster new business developments” (Porter, 1998b). Porter argues that productivity is the main factor for international competitiveness. The living standard of populations can be improved as a direct result of increases in that factor. His *diamond of competitive advantage model* of nations consists of four main attributes that shape the national environment in which local, connected firms compete: factor conditions; demand conditions; related and supporting industries; and firm strategy, structure and rivalry. Two additional variables, namely chance events and government, indirectly influence the diamond structure. Porter stresses that the six attributes promote or impede the creation of competitive advantages of firms, clusters, and nations. All conditions need to be present and favourable for an industry/firm within a country to attain global supremacy (Porter, 1990). He also believes that clusters can stimulate innovativeness, which is brought out by interactions between firms (among suppliers, customers, or rivalries) and extra-firm linkages (among universities, research institutions, local governments, or other organizations) (Porter, 2000).

¹¹ Czamanski was among one of the first group of scholars to study clusters based on quantitative research (Czamanski et al., 1974, Czamanski and Ablas, 1979). He and his collaborators systematically reviewed studies dealing with the identification of clusters and complexes.

Even though Porter's main contribution is more a theory of firm competitiveness than clusters, his idea of "clusters" has spread all over the globe, and has been welcomed by policy makers because his research highlights the role of government in clusters, and encourages governments to create a favourable environment for firms. Its theoretical interpretation relates to classical location theory and geography, and has absorbed influences from new institutional economics and development economics, and has improved the evolution of new economic geography, neoclassical economics, management science and other theories (Bergman et al., 2001). However, Porter's work on clusters has also been criticized as influential but not systematic in manner and vague in application (Feser, 1998, Rouvinen and Ylä-Anttila, 1999, Martin and Sunley, 2003).

International organizations have also developed their definition of clusters, concentrating on their innovational capability. According to UNIDO, clusters are understood to refer to agglomerations of interconnected firms and associated institutions. UNIDO emphasizes that vibrant clusters are typically at the origin of the development of innovative firms that have reaped the benefits of an integrated support system and dynamic business networks (UNIDO, 2010). In a text published by the OECD, Clusters are regarded as being geographical concentrations of firms and organisations working in related activities. Similar to UNIDO's claim, OECD suggests that clusters have contributed to the dynamic development of firms, notably by stimulating the creation of highly innovative spin-outs of core sectors of the clusters. It also argues that clusters are not likely to be hard hit given the premise of being concentrations of entrepreneurship and innovation (OECD, 2007).

In their development to the present, clusters and districts have been seen to stimulate the innovativeness and competitiveness of firms within specific locations. The factors that

stimulate innovativeness and competitiveness mainly include: workers' skills and mutual trust (industrial districts); demanding customers and local rivalry (Porter); and the activity of entrepreneurial firms. Based on these arguments, the theory of regional innovation systems (RIS) extends the discussion with some new factors that, it is proposed, can stimulate firms' innovativeness, namely: 1) a cluster of geographically proximate firms in vertical and horizontal relationships; 2) cooperation on innovation between (at least) some core firms and knowledge organisations; 3) a localized enterprise support infrastructure with a shared developmental vision among firms for business growth; 4) a regional political level with some power to intervene and support economic development and innovation in particular (Cooke et al., 1997, Braczyk et al., 1998, Cooke and Morgan, 1998).

In the discourse of regional clusters of an earlier time, the tacit knowledge transfer and innovativeness generation are confined to a local region whereas codified knowledge may roam globally. However, as globalisation has deepened, according to Bathelt et al. (2004), both regional and "extra-regional" relations are now important for developing firms' innovational capability. One way to realise innovativeness is through the learning processes that takes place among actors embedded in a local community by just being there, dubbed "*buzz*". The other way is to attain knowledge by investing in building channels of communication called *global pipelines* outside the local region. Bathelt et al. suggest that in order to achieve the local buzz of high quality and relevance, a milieu, where many actors with related yet complementary and heterogeneous knowledge, skills and information reside, is required. Of the second factor, a well-developed pipeline system is beneficial for the individual firm which establishes channels, and can also be interwoven into other firms in the cluster through local buzz.

The “global pipelines” approach can be applied to many cases of developing countries in particular, since the introduction of new knowledge from outside is an efficient way for regions/countries that lack an incremental innovation capability. However, it also raises questions of: whether developing regions/countries have a choice in selecting global collaborators; whether they receive new and scarce knowledge; and what the mechanism to run an effective pipeline system between cluster firms and global actors is. Less attention has been given to developing these arguments by Bathelt et.al.

2.1.2 The elements of industrial districts and regional clusters

Regional clusters, or regional innovation systems, are not just realisations of geographic concentrations of firms that are engaged in one or a few related industries. The lowest level of industrial district or agglomeration is a regional specialised agglomeration, which refers to a concentration and overrepresentation of jobs in one or a few related industries in a particular location. A regional cluster is able to generate cooperation between firms on top of a regional specialised agglomeration, thus constructing a correlated production system in a particular location. To develop into an innovative regional cluster or network, the essential requirement is of long-term interactive cooperation around innovation between firms within a region. It is only a regional innovation system when there is long-term cooperation between the firms and knowledge institutions on innovation.

There are a few unique and significant elements that help to explain clusters and RISs. The following three parts will present the characteristic elements of clusters: social and cultural embeddedness, innovative networks, and institutional thickness.

2.1.2.1 Social and cultural embeddedness

Based on empirical studies of pre-industrial England, Marshall has offered two efficient manufacturing systems—one established on large, vertically integrated production units, and the other based on a concentration of many small factories specializing in different phases of the same production process and operating in one location or in a cluster of locations (Becattini, 2002). Marshall has suggested that small firms would be beneficial only in the form of being collected together in the same district to enjoy external economies, otherwise they would labour in competition with large factories. Marshall's analysis places emphasis on both business relationships and other social-cultural interactions in a locality. In his original formulation of an industrial district, he considers it as being a relatively stable community: people, including workers and owners, are engaged in the same industry and live in the same area where “the secret of industry [is] in the air”, namely, an industrial atmosphere in which people share and exchange knowledge and new ideas together; substantial trade is transacted within the district, often entailing long-term contracts or commitments; and thus the internal labour market is highly flexible but migration is assumed to be minimal. At the same time, linkages and co-operation with firms outside the industrial district appear to be minimal.

After World War II, Fordism¹² was regarded as a main force to elevate the growth of productivity in the manufacturing sector of the U.S., making its economy an industrial powerhouse of the 20th century (Best, 1990). Fordism also contributed to the rise of large-scale firms, which integrated production which normally took place at a given

¹² Fordism refers to assembly-line manufacturing (the use of special machines with semi-skilled workers, the mass-production of standardized and unitary-breed goods) with a strict division of labour. It was conceived by Henry Ford at Detroit automobile factory in 1913. Through the division of labour, the manufacturing of an item was reduced to many less complex processes. Tasks for workers became more routine, and as such, could be increasingly imitated and aided by highly specialised machinery. Efficiency was increased through economies of scale and through reductions in the skill levels required of workers. Traditionally the largest firms would be seen as technologically advanced, and the smallest as technologically backward.

location. The Fordist model was successful until the 1970s. Since then, and accompanying the oil crisis and economic recession, it has been limited by a significant increase in raw materials costs and a reduction in consumer demand. The production of relatively small-batched, personalised commodities that highlighted innovation had gradually replaced mass production. Some regions prospered as the industrial districts were driven by flexible and specialized SMEs when the large-scale industrial complex of Fordism was on the wane after its period of prosperity in the 1970s and 1980s. Piore and Sabel (1984) claim that this flexible and specialized production mode is the second industrial divide¹³. Piore (1990) has further elaborated on the possibilities of success of a small, innovative firm which he suggested would go together with the industrial district where it is located. In this analysis, a local social milieu is therefore critical for cultivating an atmosphere of local networks and innovation.

Well-known examples of new industrial districts (NIDs) include traditional industries like textiles, ceramic tiles, and machine manufacturing networks in the “Third Italy”¹⁴ (Capecchi, 1989, Paniccia, 1998, Porter, 2011), and the technology-intensive industrial regions of Baden Württemberg, Germany (Sabel et al., 1989, Herrigel, 1993) and the electronics, multimedia and cultural products agglomerations in California (Scott, 1993, Saxenian, 1996)¹⁵. The development of NIDs has offered opportunities for scholars to

¹³ The first industrial divide occurred at the end of the 19th century with the appearance of mass production techniques (Piore and Sabel, 1984).

¹⁴ “The Third Italy” was coined by Italian sociologist, Arnaldo Bagnasco. Northwest Italy, the First Italy was regarded as a centre of large-scale mass production, represented in the “Golden Triangle” region of Turin, Milan, Genoa and other surrounding areas; the predominantly agricultural southern Italy was a backward region, called the Second Italy; while the Third Italy was in the northeast of the country, including the cities of Bologna, Parma and Pisa. It was an originally agricultural-dominated region but had been transformed significantly by clusters of small firms and workshops since the late 1970s. Light industrial estates were sprinkled around specialized industrial towns, which were significantly connected by close family and business ties among companies.

¹⁵ With the exception of successful examples in Western countries, Japan, became the car manufacturing giant after World War II, also developing its own flexible specialization in catching up with and to some extent, pulling ahead of American automobile manufacturers. Their production strategy was initiated by Toyota Motor Company, which consisted of two main pillars—Just-in-Time (JIT) and Jidoka (Japanese for automation). The Toyota production system referred to the production of goods to meet customer demand exactly, in a timely fashion, satisfied quality and quantity with a minimum waste of time and resources. Automated production prevented the passing on of defects, enabled quality building in the production process and permitted labour savings (Monden, 2012). Compared with Fordism, JIT increased flexibility and allowed smaller batches. Toyota’s workforce was multi-skilled which had

examine the link between micro-level business and regional economy.

There are three main NID development models corresponding with three notable schools: the Italian school (Neo-Marshallian industrial districts), the Californian school (new industrial spaces) and the GREMI¹⁶ (the innovative milieu).

The literature of the Italian school comes from the development of the “Third Italy”, which began to industrialize from the 1950s. This term, used to describe an aspect of the Italian economy that rose in the 1950s and 1960s, a vibrant economy consisting of highly competitive SMEs and is listed as an exemplary Neo-Marshallian industrial district. Like the industrial districts in the 19th century described by Marshall, the Third Italy presents a strong industrial agglomeration dominated by SMEs, but with the new features of flexibility and specialization that are predominant features of the post-Fordist era (Piore and Sabel, 1984). With the promotion of technological advancement, SMEs were proved to have strong performance in both domestic and international markets with highly specialized production and inter-firm collaboration.

Furthermore, the literature on the Third Italy consistently links their economic success to their social and cultural roots (Piore and Sabel, 1984, Becattini, 1990). Pyke et al. (1990) suggests that it is the long-established localized network which has promoted frequent interaction and collaboration between firms, has made the activities within the districts

greater productivity, flexibility and job satisfaction. But, unlike the industrial clusters located in Italy, Germany and the U.S., a typical industrial organization in Japan was characterized by strong vertical supply-chain relationships known as keiretsu (group), a network composed of manufacturers, supply chain partners, distributors and financiers that remained financially independent but worked closely together. It was regarded as a post-war variation and development of zaibatsu (industrial and financial business conglomerates whose influence and size allowed control over significant parts of the Japanese economy from the Meiji period until the end of World War II). This kind of group of companies was controlled and dominated by an interlocking ownership pattern with the member companies (Bidgoli, 2010).

¹⁶ The GREMI (French: European Research Group into Innovative Milieu) was founded in 1986 by Philippe Aydalot, a professor at the University of Paris. The notion of an innovative milieu has been introduced into their studies, which claim that the operation of firms could not be considered separate from a milieu, their existence has to be rather perceived as a product of a milieu.

reliable, and has minimised the risk and reduction of transaction costs.

Becattini (1990) is one of the main contributors to the introduction of socio-economic definitions into analyses of NIDs, including the embeddedness of the firms in a local community. He associates the idea of “industrial atmosphere” elaborated by Marshall to what he defines as a “feeling of belonging”, namely the tendency of local communities to identify themselves with the district or to feel part of it. Becattini argues that personal relationships, such as kinship between entrepreneurs, is likely an obstacle to a high flexibility of socio-economic relations that the district-form requires, but is consistent with the existence of deep interactions between the community and production. It is more likely for the entrepreneurs to exchange information with people they are familiar because they share the same social network and cultural value.

Granovetter’s (1985) study into the relationship between social structure and economic activities attempts to build up a middle ground between the theories represented respectively by the school of new institutional economics and much existing sociological theory. His seminal work on the ubiquity of social embeddedness in economic exchange claimed that it would be more accurate to view economic rationality as “embedded” within social relationships. Nahapiet and Ghoshal (1998) refine and offer more substantive definitions for Granovetter’s conceptualization of embeddedness. They define relational embeddedness as “the personal relationships people have developed with each other through a history of interactions”, which include interpersonal trust and trustworthiness, overlapping identities, and feelings of closeness or interpersonal solidarity. Structural embeddedness (or “networks”), on the contrary, are regarded as “the impersonal configuration of linkages between people or units”, which include the presence or absence of network ties between actors, along with other structural features

like connectivity, centrality and hierarchy.

Uzzi's (1997) research into business relations in New York's garment districts operationalizes the concept of embeddedness, and establishes an empirical relationship between embedded networks and firm performance. He argues that embeddedness facilitates economic exchange via three mechanisms—trust, joint problem solving and fine-grained information transfer on a range of issues beyond price. However, Uzzi reminds us that embeddedness can also derail economic performance by making firms vulnerable to exogenous shocks or insulating them from information that exists beyond their network. He thus suggests the optimal level of embeddedness is an intermediate range that is neither too tight to fragment relations or too loose to form relations.

The concept of embeddedness is a dynamic one that it is continuously shaped by the relations between different actors within districts. Although social and cultural aspects are less emphasized in Porter's (1990) "diamond of competitive advantage" model, he also underlines access to information flows in clusters, resulting from sustained personal relationships and community ties that foster trust. Unfortunately, much of the literature on clusters weighs too heavily on clusters' favouring knowledge transfer and spillover, but ignores its foundations in social and cultural environments.

2.1.2.2 Innovative milieu and network

A few decades ago, input costs were the main force of competitive advantage, and locations with a special endowment, such as a natural harbour or cheap labour, generally enjoyed a decisive and lasting comparative advantage. However, as with the rapid development of transportation and technology, competitive advantage is more concerned

with the making of a more efficient use of resources, which requires continuous innovation and upgrading in the production process, rather than the linear and rigid path of invention-innovation-adaptation redolent of Ford's time. This discernible transformation is clearly different from earlier concerns with material linkages and transaction costs (Scott, 1988) to a community that favoured the knowledge exchange and innovation. It thus requires regions equipped with the capacity to support processes of learning and innovation, which has been identified as a key source of competitive advantage (Lundvall and Johnson, 1994, Storper, 1997, Cooke, 1998, Cooke and Morgan, 1998). Economic geographers and economic sociologists have proposed a number of overlapping concepts—"relational assets", "learning regions", "social capital", "institutional thickness", "associational economies"—which emphasise the importance of knowledge and learning (Putnam, 1993, Amin and Thrift, 1995, Saxenian, 1996, Morgan, 1997, Storper, 1997, Raco, 1999). The proliferation of these concepts reflects a focus on social and institutional context within regions in terms of how they shape processes of economic development.

The idea that regional milieu linked to innovation has been developed by Aydalot (1988) and other members of the GREMI in the mid-1980s. They state that local or regional environments, not national level policy, play a determining role as innovation incubators. The school indicates the importance of socially embedded relationships and institutions, three main sets of elements of innovative milieus which have been marked: effective actor relationships within a regional framework; social contacts that facilitate learning processes; and image and sense of belonging.

In her investigation of the two leading centres of the electronic industry in the US, Silicon Valley and Boston's Route 128, Saxenian (1996) suggests the significant role of regional

inter-organisational networks in making regions innovative, particularly the role of regional cultural and human capital. Comparing their differences after World War II, she argues that Silicon Valley achieved success through intense internal competition, as well as collaboration with firms and universities within the region formally and informally. The open information flow facilitated the learning process, and enabled professional talents to develop and respond rapidly to changing markets.

Storper (1995, 1997) highlights how untraded interdependencies between actors in a region generate material and non-material assets in production, so that the region serves as the primary source for learning and innovation in knowledge-based economies. In his analysis, the term “untraded interdependencies” refers to cumulative-causation prone externalities, which take the form of a host of conventions. These conventions constitute region-specific assets in production. They are far beyond input-output exchange between firms, including common coded language, norms, customs and practices, which lead to easier communication and facilitate trust and cooperation. Similarly, Putnam (1993) advances his concept of “social capital” which consists of three components: moral obligations and norms, social values (especially trust) and social networks (especially voluntary associations). He argues that incremental social capital is critical and necessary for economic and political development.

According to Cooke (1998), an RIS should be cultivated in a cluster of geographically proximate firms in vertical and horizontal relationships. It should cultivate cooperation on innovation between a number of core firms and knowledge organisations, a localized enterprise support infrastructure with a shared developmental vision among firms for business growth, and a regional political level with some power to intervene and support economic development, particularly innovation. This concept further specifies that an

industrial district should place emphasis on innovation between firms in a temporal framework of long-term interactive cooperation, and knowledge organisations.

The advantages of proximity include offering more face-to-face contact, which is crucial for information exchange, particularly for tacit knowledge, spillovers and spin-offs from leading firms and other research institutions, such as universities, government- or military-support centres, etc. Being located in a particular region also invigorated informal institutions and conventions, where economic actors have common languages and rules for communicating, interpreting and developing knowledge.

Moreover, innovation has also been regarded as an important factor in the formation of clusters. Duranton (2007) elaborates the spatial evolution of cities and industries as following breakthrough innovations. Centres of innovation are determined by where frontier inventions occur, and production follows the location of innovation to achieve agglomeration and clusters. When breakthrough occurs outside existing clusters, then production resources tend to migrate and be close to new innovations.

All of the above concepts and theories stress the significance of social networks and cultural contexts as promoters for regional innovation and growth based on cases in developed countries/regions. Most of them seldom mention the conflicts between interests of different actors and parties within locations.

2.1.2.3 Local Institutions

An institution is any structure or mechanism of social or political order, as well as particular formal organisations of government and public services practiced within a

given community. A plurality of decentralised and autonomous organisations is believed to undertake effective economic governance extends beyond the reach of both state and market institutions (Hirst, 1994). Since the Post-Fordist production system has required flexibility and rapid responses, regional institutions thus need to be context specific and sensitive to local path dependencies. Therefore, specific local institutional arrangements are necessary for building strong social capital and enable localities to embark on a sustainable and high-end road to economic development (Streeck, 1991, Fukuyama, 2002).

In terms of institutional arrangements, different scholars have different foci. Some, such as Putnam, concentrate on social capital, which is understood as “features of social organisation, such as networks, norms and trust that facilitate co-ordination and cooperation for mutual benefit” (Putnam, 1993). Putnam (1993) brings forward different forms of social organisation and different levels of trust between the North and the South of Italy leading to differential levels of development of regions of the country. Some focus on the role of “institutional thickness” as “a combination of features including the presence of various institutions, inter-institutional interactions and a culture of represented identification with a common industrial purpose and shared norms and values, which serve to constitute the ‘social atmosphere’ of a particular locality” (Amin and Thrift, 1995). Institutional thickness gives institutions legitimacy, generates trust, increases innovative capacity, expands common knowledge, assimilates innovation and helps to embed economic activity in local contexts. Hence, Amin and Thrift (1995) suggest that there is a need to encourage intermediate forms of governance, building up to a local “institutional thickness” which includes enterprise support systems, political institutions, and social citizenship. Woolcock (1998) categorises institutions as “developmental” and “dysfunctional”. A “developmental” institutional type refers to

efficient bureaucratic systems with a high degree of cooperation and flexibility, and low levels of corruption through encouraging individual and collective freedom. By contrast, a “dysfunctional” institutional type refers to unaccountable and corrupt institutions, one that is often captured by elites, detached from the common citizen, and which fails to guarantee the rule of law.

Due to its important role in shaping social context and economic development, government is one of the most discussed topics concerning institutions. Porter discusses it in his work *The Competitive Advantage of Nations* (1990), but mainly at national level. He argues that it is not appropriate to divide the role of government as “laissez faire”-oriented or “intervention”-oriented. On the one hand, subsidising industrial policy would result in firms’ great dependence on governments, and would be harmful for competition and long-term development; on the other hand, the advocators who stand for reducing government intervention possibly overlook the role of government played in cultivating a fair and enabling environment for business. Hausner (1995) suggests that the role of the state, as the prime collective organisation with societal reach and legal power, should be that of providing resources, arbitrating between decentralised authorities, securing collective results, and, above all, establishing strategic goals, rather than that of a central planner or market facilitator. Brusco (1990) separates NIDs into two types—Mark I, without external local government intervention, and Mark II, with considerable government intervention. He finds that in the industrial districts of Mark I, most knowledge and innovation is increased by fostering interaction between skilled workers and small entrepreneurs, and their subcontractors. Since the 1980s, new markets and new technologies have imposed the requirement of restructuring for firms. In order to achieve a capacity for innovation, it requires continual informal interactions and should favour masses of people within a particular district. The industrial districts of Mark II, local

government offers “real service” instead of financial help to the firms. This may include, for example, the establishment of a centre to collect extensive information on farm equipment in different countries on behalf of a cluster of firms that engage in agricultural equipment production; or the hiring of a group of textile experts to provide consultation on future fashion trends for textile manufacturers. Brusco observes that real services in some regions of the Third Italy were successful in encouraging growth, and were effective in moving districts towards new technology and towards industrial districts in Italy based on upper segments of the market.

However, while the significant role of local institutions as discussed above has been acknowledged, little attention has been paid to the relations and distinctions between the institutions at different administrative levels, especially when discussing a vast country such as China, where national and regional governments sometimes have different interests and thus conflicting policies. Since governments occupy important places in shaping regional institutions, it is necessary to clarify its functions and how to maximize its biggest efficiency.

2.1.3 Other types of industrial districts/clusters

From the above reviews, NIDs refer to the flexible specialised, locally embedded, and endogenous driven model that consists of a cluster of small, locally owned firms. However, such NIDs have been criticized for not comprehensively enough reflecting on the whole picture of Post-Fordism, especially in a globalised context in which developing countries operate.

Markusen (1996) has put forward a thesis of “sticky places” meaning particular places that have managed to anchor productive activity while others become more “slippery” in the context of free trade, the rapid development of information technology and globalization, and capital mobility which has enabled firms to go anywhere. Based on her case studies in the U.S., Japan, Korea and Brazil, Markusen (1996) takes firm size and their power into account, and demonstrates the continued power of the state and/or TNCs under certain circumstances to shape and anchor industrial districts, providing the glue that keeps smaller firms in place and expanding, and attracts newcomers into the regions. She introduces three alternative types of industrial districts to interpret regional economies in the U.S., Japan, Korea and Brazil: 1) the hub-and-spoke industrial district, revolving around one or more dominant, externally oriented firm. This type is different from the Marshallian district, since regional development largely depends on one or a few core firms rather than networking among smaller firms; 2) the satellite platform district, which is an agglomeration of unconnected branch plants embedded in external organizational links, each part of which has its own globally-oriented supply chain (similar to independently-developed global pipelines). A satellite platform district is often located in a highly accessible locality, such as a transport terminal; 3) the state-anchored district, locating around one or a few public-sector institutions. Moreover, Markusen notes that some districts have dynamic development that may move from one type to another type. Therefore, she is open to analysing “the real world districts” as “sticky mixes” of the four types. Generally, Markusen distinguishes the capacity of localities as “sticky places” and “slippery places”, and indicates regional imbalances derived from different regional intrinsic features, yet it is also worth querying whether and how a region can evolve from “slippery” to “sticky”.

The term industrial districts originally derived from the development experience of

developed countries. However, more recently discussions about industrial districts/clusters have been extended to apply to developing countries. Park and Markusen (1995) introduce the notion of the satellite industrial district, comprising branch operations of non-locally based corporations, as an example of a rapidly growing industrial district distinct from Marshallian and Italian forms. They argue that the two high-performance industrial districts in Korea, Kumi and Ansan, are the product of strong state planning and management, non-place embeddedness, and interregional labour mobility. They suggest redefining the concept of an NID in a new form of a “sizable and spatially delimited area of new trade-oriented economic activity, which has a distinctive economic specialization, be it resource-related, manufacturing or services” rather than “flexible specialization” and “networking” phenomena. They consider the type of satellite industrial district to be more likely to predominate in developing regions/countries. The Korean cases that Park and Markusen introduce essentially describe the features of East Asian NIEs’ development model from a few decades ago. However, developing regions/countries nowadays have been under very different circumstances. Compared with Korean cases characterised by strong state intervention, industrial districts in many other less-developed Asian regions/countries are more likely to be dominated by TNCs (Fan and Scott, 2003, Yusuf and Nabeshima, 2009). By investigating the case of Beijing’s Zhongguancun, a new-tech industrial district, Wang and Wang (1998) identify its vulnerabilities due to a unique combination of weaknesses. These include strong hierarchical restraints from state-owned institutions or firms on local networking, and direct global linkages with multinationals, which expose local economies to volatile world competition.

Generally, both industrial districts and clusters have offered nuanced frameworks for the analysis of regional production and development, focusing on interactions among all

actors within regions. However, the free flow of much capital, technology, labour resources, information and goods, due to globalisation, have generated more external linkages with endogenous clusters. Local firms are becoming incorporated into a global production system usually governed by large, powerful TNCs; this is particularly obvious in developing countries. Hence, it is not possible to gain a good understanding if one does not clarify the positions of local firms and TNCs in the global production system. Therefore, the newly developed global value chains and global production networks may help to develop and further discourse.

2.2 Global commodity chains (GCC) and Global value chains (GVC)

In the period before globalisation, notions of agglomeration and clusters that emphasised endogenous development and local linkages were prevalent. Thereafter, growing globalisation and globalist perspectives challenged the ideas of regionalism and localism. Since the 1990s, scholars have noted that TNCs have increasingly outsourced their non-core links across national borders and distributed them to different clusters all over the world. Hence, they have explored the interrelationship between local and global economies and have applied value analyses into regional studies from GCC, GVC or GPN perspectives. Scholars have argued that it is necessary for clusters to participate in the international division of labour rather than constructing enclosed development to achieve sustained upgrading (Scott, 1996, Gereffi, 1999b, Ernst, 2002, Sturgeon, 2002, Coe et al., 2004, Giuliani et al., 2005).

The GCC/GVC theory originates from the value chain theory developed by international business researchers in the 1980s. Michael Porter's value chain model is most popular,

but Kogut's value-added chain is more critical for the development of the GCC/GVC theory. Porter (1985) raises the value chain analysis to help identify a firm's core competencies and distinguish those that drive competitive advantage. He focuses on the investigation of a company's creation of internal value, and considers that the process can be divided into two parts: primary activities (including inbound logistics, operations, outbound logistics, marketing and sales, services, etc.) and support activities (including firm infrastructure, human resource management, technology development, procurement, etc.) He suggests that the firm in pursuit of value should identify one or more competitive parts, which create most value, by comparing value created by different parts.

Almost simultaneously, Kogut (1985) proposed that the value-added chain was the process by which technology is combined with material and labour inputs, with processed inputs being assembled, marketed, and distributed. A single firm may either consist of only one part in this process, or be extensively vertically integrated. He considers that the international strategy of firms can be catalysed by the interaction between comparative and competitive advantage. Comparative advantage derives from differences in factor costs (e.g., wages, materials, capital charges) and the intensity of factors used which vary along the value-added chain. It determines what firms' sources are and their access to national markets. Competitive advantage, sometimes referred to as firm-specific advantage, influences the decision of what activities and technologies along the value-added chain a firm should concentrate its investment and managerial resources on.

Porter's value chain model only refers to the competitive advantage of firms, concentrating on the corporate level. In contrast, Kogut's view of value-added chains is more a reflection of the relationship between the vertical separation of the value chain and reallocation on a global scale, considering regional and global linkages.

2.2.1 Global commodity chains (GCC)

In order to understand the impact of globalisation on industrial commodity chains, Gereffi and his collaborators presented the research framework of global commodity chains (GCC) at the end of the 1980s, which refers to activities ranging from design to manufacturing, to the marketing of a product (Gereffi and Korzeniewicz, 1989, 1994, Gereffi, 1995, Gereffi and Lynn, 1996, Gereffi, 1999b, a). Their research highlights the importance of coordination across firm boundaries, and indicates the growing importance of new global buyers (mainly retailers and brand marketers) as key drivers in the development of global production and distribution. Moreover, they propose that the advancement of the state from the periphery to the core part of the global system depends on its capability of promoting production to higher value-added parts efficiently.

The GCC framework is initially identified in three different dimensions, namely input-output structures, territoriality structures and governance structures (Gereffi and Korzeniewicz, 1994), later adding a fourth factor of institutional framework (Gereffi, 1995). The input-output structure considers the value chains as the sequence of interrelated value-adding activities, including production design and engineering, manufacturing, logistics, marketing and sales. The geographical spread of firms, or spatial decentralisation and concentration of economic activities within and across locations, can be another characteristic of a GCC framework. The institutional framework mainly applies to issues of how local, national and international institutions (e.g., policy and regulation, formal and tacit rules) shape the conditions under which key agents incorporate subordinate agents through their control of market access and information.

The governance structure underlines the authority and power relationships that affect the setting of barriers to entry and coordination within the chains. This structure, which is essential to the coordination of transnational production, has received most attention. In this context, two main governance structures have been identified: producer-driven chains of industries in which TNCs or other large integrated firms play key roles in controlling the production characterised by capital and technology intensive industries; and buyer-driven chains of industries in which large retailers, brand marketers, and trading companies play key roles in setting up decentralised production networks in a variety of exporting countries, typically located in developing countries which have low production costs (Gereffi, 1994).

In fact, the study of GCCs started with buyer-driven chains, which are based on Gereffi's case studies of apparel and other labour-intensive industries in East Asia. According to Gereffi's observations, the status of multinational buyers has risen. They are regarded as the key drivers of the global system, with their production and distribution increasingly separated through hierarchical outsourcing. The most profitable parts of buyer-driven commodity chains come from a combination of highly-valued parts of R&D, marketing, and financial services, which highlight the significant status of retailers, marketers and brand marketers. This trade-led production is quite common in labour-intensive industries that have engaged in consumer goods manufacturing, such as apparel, footwear, toys, consumer electronics and various handicrafts. Unlike the buyer-driven commodity chains, the profits of producer-driven commodity chains generally come from production scale and the rents of technology, which refer to the automobile industry, computer, aircraft and electrical machinery. By comparing two commodity chains, Gereffi has suggested that producer-driven commodity chains are vertically-integrated global production allocated by TNCs (usually in relation to FDI); while buyer-driven

commodity chains are vertically-separated global production allocated by transnational retailers and brand marketers (usually in related to outsourcing) (Gereffi, 1999b).

The study of GCCs reveals which parties govern the global chains, and have the capacity to allocate resources. The GCC framework has also elaborated their governance structures and the transformation of related industrial organisations. In the past, the exact nature of these structures and transformations was often not clear since conventional international trade statistics divided by nations were subject to interpretation. In other words, data neither identifies whether firms within chains are engaged in inter- or intra-firm trade, nor recognizes how global production is organised.

According to the GCC approach, latecomers can participate and promote their positions in global chains in four ways: 1) product upgrading; 2) process upgrading; 3) intra-chain upgrading; 4) inter-chain upgrading. In the GCC framework, upgrading is a process to improve the capability of a firm or an economy to seek a more profitable and sophisticated paradigm. For example, the four dragons of East Asia (South Korea, Taiwan, Hong Kong and Singapore) achieved incremental improvements in manufacturing capability through evolving from OEM, to ODM and OBM (Hobday, 1995).

In sum, the GCC approach offers a pragmatic framework for the study of global production resource allocation and upgrading. However, it has not been developed completely and comprehensively enough and overemphasises the dominant role of TNCs, while paying insufficient attention to other parts of the chains, and the interaction and interplay between the TNCs and outsourcers.

2.2.2 Global value chains (GVC)

Although studies of GCC have focussed attention on production allocation and profit distribution in a global context, it was still far from being able to be regarded as a fully-fledged research framework until the end of the 1990s (Raikes et al., 2000). Sturgeon (2001, 2002) has studied the electronics industry and argues that outsourcing parts are not always low value-added, and some parts are not totally controlled by multinational buyers. Furthermore, even though the parts of global chains are separated, there is still interplay between them, and any one part can be a variable for others. Hence, it is necessary to clarify the mechanism of their interaction, and identify the governance that exists between them.

Later, Gereffi, Humphrey and Sturgeon (2005) propose a relatively comprehensive framework for understanding governance types of global production, namely global value chains (GVC). The definition of GVC denotes a value chain, describing the full range of activities that firms and workers do to bring a product from its conception to its end use and beyond. The activities that comprise a value chain can be contained within a single firm or divided among different firms. Value chain activities can produce goods or services, and can be contained within a single geographical location or spread over wider areas¹⁷.

Drawing on three streams of literature, including transaction costs economics, production networks, and technological capabilities and firm-level learning, their research identifies three variables that play important roles in determining how global value chains are organised and transformed. Their research has generated five types of GVC governance –

¹⁷ Retrieved on February 4th, 2014, from <http://www.globalvaluechains.org/concepts.html#5>

hierarchy, captive, relational, modular, and market—which range from high to low levels of explicit coordination and power asymmetry.

Comparing two distinct governance types raised by GCC, namely buyer-driven chains and producer-driven chains, the GVC approach suggests that in reality the governance of value chains has been increasingly complex. Attributing this to modularised manufacturing, the rapid advancement of modern communication and information technology, and efficient transportation, different parts of the chains have been organised more outsourcing, and leading firms therefore have become more network-oriented. The GVC framework, accordingly, has specified a more elaborate set of governance types and crucially provides a method to explain changes in governance types over time¹⁸.

The primary concerns of the GVC framework include two aspects: one is the governance of GVC which is essential for identifying global production organisation types; the other is upgrading, especially the upgrading of developing regions/countries within global production networks. Showing positive and negative examples of upgrading, the East Asian miracle and the failure of the Latin American ISI strategy have driven many developing countries to a preference for participation in the international division of labour with export-oriented strategies. Studies of GVCs have attempted to identify the relationship between governance types of value chains and the upgrading possibility of participators, and also offer significant policy implications for institutions.

2.2.2.1 The governance of GVCs

The term “governance” is commonly defined as co-ordination of economic activities

¹⁸ Ibid.

through non-market relationships. According to Humphrey and Schmitz (2001), there are four primary determinants of governance in value chains (table 2.1). These determinants help to delineate four main types of governance, and specify the features and costs of them in the process of upgrading. They suggest that a governance structure is critical for the GVC structure, because it is an important determinant of which part reaps the gains of globalised resource allocation in three different respects: inter-firm profit allocation, the resources that firms are able to master, and leverage points for policy initiatives.

Table 2.1 Determinants of governance in value chains

Chain governance	Determinants
Arm's length market relations	Buyer and supplier do not need to collaborate in product definition. Either the product is standard, or the supplier defines it without reference to particular customers. Risks to buyers are low, either because requirements are easy to meet, or because suppliers are clearly capable of meeting them. The buyer's knowledge of this capability may arise from the reputation of a cluster, or from the reputation of a particular manufacturer.
Network	The co-operation between buyers and suppliers is more or less among "equals". Supplier and buyer jointly define the product, and combine complementary competences. This is more common when both buyer and supplier are innovators, close to technology or market frontiers. The risk to buyers is minimised by the supplier's high levels of competence. High and generalised competence

	favours networks and reciprocal inter-dependence.
Quasi-hierarchy	Buyer has a high degree of control over supplier and defines the product. The buyer would incur losses from the suppliers' performance failures, and there are some doubts about the competence of the supplier. Where high supplier competence is not generalised, buyers invest in specific suppliers and seek to tie them to their chain.
Hierarchy	Buyer takes direct ownership of developing country operations. The buyer carries out product definition, which may involve proprietary technology. The risks of poor performance by independent suppliers increase if the buyer uses quality as a brand attribute. These factors favour direct control over the production process.

Source: Humphrey and Schmitz (2000).

In their paper published in 2002, Humphrey and Schmitz (2002a) examine governance in GVCs, by which is meant inter-firm relationships and institutional mechanisms through which nonmarket coordination is achieved. They argue that governance is actually not a necessary feature of value chains, as many goods can be traded in markets through a series of arm's-length market relationships between firms. However, the issue of governance arises when buyers have specific requirements related to production or transactions, in charge of information exchange and communication.

Later on, Gereffi, Humphrey and Sturgeon (2005) identify three key variables that determine the organisation of a GVC: (1) the complexity of inter-firm transactions; (2) the degree to which this complexity can be codified; and (3) the extent to which the

suppliers have the necessary capabilities to meet the requirements of buyers.

In this respect, Gereffi et al. (2005) propose five types of governance relationship that focus more on the interplay between buyers and suppliers comparing with the four types of governance summarised by Humphrey and Schmitz (2000). Generally, *market* relations tend to be dominant when transactions are not complex, because requirements are briefly specified by the buyer, and the supplier is able to meet these demands without much difficulty. This is very likely to lead to modularised production, and therefore to *Modular value chains*. Within these types of chains, the cost of switching from one supplier to another is low, and also results in intensive competition. If product specifications are not easily codified they are *relational value chains*, with transactions being relatively complex and suppliers highly capable. On one hand, through mutual dependence tacit knowledge must be exchanged between firms, and on the other hand, inter-firm relationships are regulated based on reputation, geographical proximity, and social, ethnic and family ties, etc. Within this type of chains, the cost of switching to new partners is high for firms. In *captive value chains*, both the complexity of transactions and the ability to codify this complexity is high, but the capabilities of suppliers are low. The lead firms in these cases provide key design elements of product and significant assistance to the supply firms, and therefore the former seeks to lock the latter into a “captive” relationship to prevent others from benefiting. Hence, captive suppliers are frequently confined to a narrow range of tasks, and have high dependence on lead firms for technology supervision and upgrading, and raw material and key units’ supply. Governance *hierarchy* is characterized by vertical integration. Within these types of chains, product specifications cannot be codified, and highly competent suppliers cannot be found. It results in lead firms therefore being able to develop and manufacture products in-house (Gereffi, Humphrey and Sturgeon, 2005). Coe et al. (2008) believe that this is a

major improvement on Gereffi's dichotomous categories of buyer-driven and producer-driven chains, regarding it as a more nuanced understanding of power relationships, although only one set of relationships—between firms and suppliers—is considered.

2.2.2.2 The upgrading of GVC

Upgrading in the value chains is the most important issue being committed to find solutions in research on GVCs. It is generally believed that developing regions/countries should participate in an international industrial division of labour by using their abundant natural resources and/or cheap labour supply as a comparative advantage (Lin, 2010). However, in reality the increasing emergence of lower-cost producers has usually led to the intensification of global competition, sometimes resulting in a “race to the bottom”. Moreover, with the rapid development of science and technology, the significance of resources in labour supply and natural resources has been undermined. Those initial comparative advantages thus could not last indefinitely. Such a scenario therefore invites the question - should developing regions/countries maintain or increase their income in the face of the growing global competition? Humphrey and Schmitz (2002b) suggest that an effective strategy is upgrading their positions in value chains, including promoting productivity and/or moving into a niche market. Kaplinsky (2005) argues that the ability of producers to sustain income growth and make the most of global opportunities is currently undermined by intense competition. He considers that improving competitiveness more rapidly than other competitors is the most effective way of upgrading. He also raises the rent theory that describes a situation where the parties who possess a particular set of resources are able to gain from scarcity by insulating themselves from competition, stating that this is achieved by taking advantage of or by

creating barriers to the entry of competitors. In this context, parties' income also depends on the extent of rents they command. Kaplinsky posits that developing regions/countries can realize economic growth by grasping endogenous rents (technology, human resources, organisational, marketing and design, and relational rents) and/or exogenous rents (resource, policy, infrastructural, and financial rents).

Based on his research on East Asian apparel value chains, Gereffi (1999b) considers that upgrading is a process of improving the ability of a firm or an economy to move to a more profitable and/or technologically sophisticated capital and skill-intensive economic niche. He suggests that upgrading can be realised at different levels: (1) *within factories-upgrading*—refers to moving from cheap to expensive items, from simple to complex products, and from small to large orders; (2) *within inter-firm networks*—refers to moving from mass standardised production to the customised production of multi-varieties and small-batches; (3) *within local or national economies*—refers to moving from simple assembly of imported inputs to more integrated forms of OEM and OBM production, involving a greater use of forward and backward linkages at the local or national level; and (4) *within regions*—refers to shifting from bilateral, asymmetrical, inter-regional trade flows to a more fully developed intra-regional division of labour incorporating all phases of the commodity chain from raw material supply, through production, distribution, and consumption. The last two levels, especially the last one, indicate that upgrading eventually promotes an entire process of regional development. Furthermore, Gereffi makes clear that participation in GCC/GVC is a necessary step for upgrading because it puts firms and economies on potentially dynamic learning curves.

For Humphrey and Schmitz (2000), upgrading activities can be roughly divided into two forms: (1) performing the same activities as before, but more efficiently, namely, process

upgrading; (2) changing the activities firms undertake, namely, product upgrading or functional upgrading, which implies that different products may be produced for different groups of consumers. The second type of activity would thus lead those firms to new positions in the value chains.

Kaplinsky and Morris (2001) further elaborate four trajectories which firms can adopt in pursuing upgrading: (1) during process upgrading, increasing the efficiency of internal processes significantly better than rivals; (2) during product upgrading, introducing new products or improving old products much faster than rivals; (3) during functional upgrading, increasing added-value by changing the mix of activities conducted within the firm or moving the locus of activities to different parts of the value chain; (4) moving to a new value chain.

The work of Ernst (2002), and one observation in particular, is important in the context of this discussion. He considers upgrading as a broadening and deepening of a country's product specialisation. He also develops a taxonomy to identify four forms of upgrading: (1) inter-industry upgrading with capital and technology deepening within a hierarchy of industries that proceeds from low value-added industries (e.g., traditional labour-intensive industries) to higher-value added industries (heavy and higher-tech industries); (2) inter-factorial upgrading conforming to a hierarchy of factors of production that proceeds from "endowed assets" or "natural capital" (natural resources and unskilled labour) to "created assets", i.e. "physical capital", "human capital" (specialised skills) and "social capital" (a region's support services); (3) upgrading of demands within a hierarchy of consumption, that proceeds from "necessities" to "conveniences" and even "luxury goods"; (4) upgrading along functional activities within a hierarchy of value-chain stages, that proceeds from sales and distribution to final

assembly and testing, to component manufacturing, system integration, and knowledge-intensive support services. Ernst considers most past research focused on a combination of the first two forms of upgrading, but which do not offer convincing results because they usually categorise industries by a relatively simple dichotomy of low-wage, low-skill sunset industries and high-wage, high-skill sunrise industries. He argues that there are low-wage and low-skill parts in even the most high tech industries, while in the so-called sunset industries (such as textiles) high-wage and high-skill activities also exist. Moreover, both the capability requirements and the boundaries of a particular “industry” keep changing over time, which makes an analytical focus on the industry level even more problematic.

The cases of industrial development in developing countries offer numerous references for the upgrading research of GVC. The experience of East Asian NIEs is regarded as having been a successful case of upgrading. As discussed above, large bodies of research into GVCs were based on studies conducted in this region (Gereffi, 1999b, Gereffi and Memedovic, 2003). Among those cases, apparel manufacturing is a typical labour intensive industry with low capital and technology barriers to entry, and it thus became the starting point of industrialisation for many developing countries. The clothing industry played a significant role in the early export-oriented growth of East Asian NIEs. But the NIEs managed to transform from the assembly of imported inputs (OEA) to a more domestically integrated and higher value-added exporting production (OEM). Hence, Gereffi and his collaborators have posited a particular mechanism and relatively progressive path of upgrading, starting from process upgrading, then moving to product upgrading, then functional upgrading, and finally achieving chain upgrading.

Humphrey and Schmitz (2000) notice that certain types of chain governance favour some

forms of upgrading but not others. Operating in quasi-hierarchical global chains helps local producers to embark on rapid product and process upgrading, but makes it difficult to progress into the design and marketing parts of the chain. Such ‘lock-in’ is less likely in non-hierarchical chains where relationships are market or network based.

From the above analysis concerning paths of upgrading, it is recognised that there are a variety of paths for firms’ sustainable growth. Different paths fit in different types of governance, and lead to different performance and consequence. It is therefore important to identify paths taken by firms. Meanwhile, the upgrading paths reveal the nature and features of firms (scale, capacity, position of the value chain, etc.) and governance types show the value chain that the firm is located in.

Since the rise of GVC research, significant numbers of scholars and institutions have paid great attention to the issue of upgrading within the GVC framework. In 2003, UNIDO released a series of reports on GVC, and made in-depth investigations on automotive, apparel and wood furniture industries respectively (Gereffi and Memedovic, 2003, Humphrey and Memedovic, 2003, Kaplinsky et al., 2003). These earlier studies were followed up with studies that further explored upgrading of developing countries which participated in the international division of labour (Memedovic, 2004, Hartwich and Kormawa, 2009, Kaplinsky et al., 2009, Memedovic and Shepherd, 2009, Morris et al., 2009). In 2010, the World Bank published the book *Global Value Chains in a Post-crisis World: A Development Perspective* which attempted to reanalyse the entry and upgrading possibilities for developing countries through the GVC perspective after the global economic crisis (Cattaneo et al., 2010). Most of these studies assert that participation in the international division of labour and value chains is at least a necessary condition for developing countries to realise their industrialisation. Yet its spillover effect on local

development has been conspicuously understudied so far, but it is believed to be a fast track mode of development by most GVC research.

However, some scholars (Humphrey and Schmitz, 2000, Schmitz, 2004, Kaplinsky, 2005) have found that upgrading does not happen automatically to developing countries. Based on a broad variety of field studies (the garments, footwear, furniture and electronics sectors), it can be summarised that in chains characterised by captive relationships, producers in developing countries have made fast and significant progress in the upgrading of products and processes under both highly demanding challenges and strong support from buyers. However, there is little evidence to show firms moving forward to functional upgrading (i.e., parts of design, branding and marketing), and no agreement on whether insertion in captive global chains may provide a route to functional upgrading. It is questionable whether suppliers' competences have been actually promoted or not, because lead firms typically do not want to share their core competence (i.e., R&D, branding marketing and distribution channels) with their suppliers, and the cost is enormous if the producers in developing countries want to develop their own brands or set up their own marketing channels.

2.3 Comparison of the cluster and GVC

Upgrading has always been the greatest preoccupation for the study of both the cluster and GVC. Many GVC scholars believe that the combination of the cluster and GVC offer strong support for research into upgrading in developing countries (Humphrey and Schmitz, 2000, Bair and Gereffi, 2001, Giuliani, Pietrobelli and Rabellotti, 2005, Nadvi and Halder, 2005, Sturgeon et al., 2008). Humphrey and Schmitz (2000) deliver a

comparative study of the cluster and GVC. They recognise that research into both the cluster and GVC underscores the importance of upgrading in order to face increasing competition. They also emphasise the role played by governance in upgrading, using the term governance to denote co-ordination of economic activities through non-market relationships. However, the two approaches see governance operating at quite distinct loci, with quite distinct implications for learning within the cluster or chain and upgrading opportunities for firms in developing countries. Table 2.2 shows a comparison of the cluster and GVC in terms of governance and upgrading. The research of the cluster emphasises intra-cluster relations, and believes that upgrading is achieved through enhancing local governance and efficiency, and fostering local innovation capability. Even though the external linkages are acknowledged by the cluster research, it fails to recognise the increasingly significant interaction between local and global governance. Real evidence and experience in developing countries has revealed the critical interplay of both local clusters and global value chains. In particular, the upsurge of FDI and cross-border production has triggered a proliferation of industrial clusters (Schmitz and Nadvi, 1999) (Enright, 2003, Fan and Scott, 2003, Yusuf et al., 2008, Yusuf and Nabeshima, 2009). Meanwhile, integrated clusters are one of the most important regional assets for the introduction of TNCs which are normally regarded as the main stimulus for local economic growth and innovation capability (Zhou and Tong, 2003, Depner and Bathelt, 2005).

On the other hand, research on GVCs has developed from case studies of export-oriented industries in developing countries that were controlled by TNCs. The GVC approach mainly concerns external linkages and inter-firm governance between lead firms and their suppliers. GVC research has argued that it is global buyers or leading manufacturers that help promote suppliers' capacity through the way of learning by exporting. In other words,

upgrading is achieved mainly by inter-firm cooperation within GVCs, without much consideration of local endogenous initiatives. However, it should be noted that transnational lead firms choose their suppliers mainly on the basis of their comparative and competitive advantages that are shaped by regional/local milieu. Meanwhile, these regional features are in dynamic, not static development, necessitating a closer examination of the interrelationship in global production systems and regional/local development.

Table 2.2 Governance and upgrading: the cluster vs. the value chain

	Cluster	Value Chain
Governance within a locality	Strong local governance characterised by close inter-firm co-operation and active private and public institutions.	Not discussed. Local inter-firm co-operation and government policy largely ignored.
Relations with the external world	External relations not theorised, or assumed to be based on arm's length market transactions.	Strong governance within the chain. International trade increasingly managed through inter-firm networks.
Upgrading	Emphasis on incremental upgrading (learning by doing) and the spread of innovations through interactions within the	Incremental upgrading made possible through learning by doing and the allocation of new tasks by the chain's lead firm.

	cluster. For major upgrading initiatives, local innovation centres play an important role.	Discontinuous upgrading made possible by 'organisational succession' allowing entry into more complex value chains.
Key competitive challenge	Promoting collective efficiency through interactions within the cluster.	Gaining access to chains and developing linkages with major customers.

Note: Humphrey and Schmitz (2000).

However, the GVC approach has been criticised for its relatively simple linear structure that focuses narrowly on the governance of inter-firm transactions, overlooking the reality of a complex web of intertwined social, political and geographic power (Henderson et al., 2002, Hudson, 2004, Coe et al., 2008). It usually concerns only a limited number of firms, and dismisses other firms or groups of firms that compete or simply do not work with the selected lead firms. Furthermore, its dualistic conception of governance that is limited to inter-firm relationships leads to a relative neglect of territorial organisation, and a failure to theorise competitive dynamics and evolutionary process in multi-commodity or multi-industry production networks. Although a growing body of empirical evidence suggests that non-firm actors have significant influence on production structures and the distribution of labour, the GVC study offers little explanatory power to regional and subnational actors in shaping inter-firm governance.

2.4 Global production networks (GPN)

The studies of GCCs/GVCs and GPNs have many points in common, especially when interpreting value creation and enhancement in the context of globalisation, the principal difference being between the structure of chains and networks. Compared with the linear framework of chains, the GPN framework, as suggested by Dicken (2011), is a set of extremely complex structures with intricate links which can be understood as multidimensional and multi-layered lattices of economic activity that cover organisational and geographic networks of production, distribution, and consumption across space. The GPN framework also integrates a group of elementary spatial concepts, such as the regional assets and embeddedness that are also emphasised by the cluster approach, but the former obviously goes farther than the latter in a period of globalisation.

A group of scholars at the University of Manchester, Henderson-Dicken, Hess, Coe, and Yeung (2002) coined the concept GPN. They propose that the GPN is a conceptual framework that is capable of grasping the global, regional and local economic and social dimensions of the processes involved in many (though by no means all) forms of economic globalisation. Namely, global production networks are not only economic phenomena, but also fundamentally social, cultural and political systems (Levy, 2008). The socio-political context and the firm-centred production networks interweave together, while the former is essentially territorially specific, and the latter tends to “cut through” territorial boundaries. Therefore the notion of GPN constructs a very complex structure of discourse.

Henderson et al. (2002) state that the concept of GPN builds upon GVC analysis conducted by Gereffi and his collaborators, but also accepts the criticism levelled against it. They argue that the commodity chains/value chains generally connote standardised products with production without considering the specific social circumstances that the

chain is located in. In contrast, the GPN places analytic emphasis on social processes for a discourse of “production” involved in producing goods and services, and reproducing knowledge, capital, and labour power. As a result, the activities within GPNs are considered as vertically, horizontally and diagonally organised in complex and dynamic configurations, rather than the essentially linear process of the chain approach. The framework of GPNs has also allowed for far greater complexity and geographical variation in producer-consumer relations. This reveals how certain key elements of knowledge “circulate” between producers, consumers and intermediaries, and the complex combination of social geographic factors that influence the production process. Furthermore, scholars claim that global-local relations are a pre-condition for the analysis of economic globalisation and its asymmetric consequences, while the terms “international” or “transnational” derive from essentially state-centric discourses. The GPN, as its name implies, contributes much to our understanding of the interactions between non place-specific processes and place-specific processes.

Generally, the GPN perspective directs attention to the following things: firm-centric production networks, and their organisation within the context of both a regional and global context; the governance of corporate power within those networks; the significance of labour and the process of value creation and transfer; and the institutions that influence firm strategy in particular locations. In particular, these institutions include government agencies, and in some cases trade unions, associations of employers, employees and consumers respectively, and civil society organisations. Finally, the implications of value-adding and capturing, technological upgrading, and economic prosperity are pursued by all the above entities.

The three principle elements of the GPN framework proposed by Henderson et al. (2002)

are value, power and embeddedness. “Value” denotes both Marxian surplus value and more orthodox aspects associated with economic rent. It mainly includes the issues of value creation, value enhancement and value capturing. The authors emphasise that it is one thing for value to be created and enhanced in given locations, but it may be quite another for it to be captured for the benefit of those locations. They argue that value capture is primarily decided by firm ownership and the nature of corporate governance in given national contexts. The issue of value capture underlines the significance of national or regional forms of capitalism for questions of economic and social development.

“Power” mainly consists of corporate power, institutional power (national and local state, international inter-state agencies, the “Bretton Woods” institutions, the various UN agencies, the international credit rating agencies) and collective power (trade unions, associations of employers, employees and consumers respectively, and civil society organisations). This power, exercised within the GPN, is decisive for value enhancement and capture, and thus for prospects for development and prosperity. Coe et al. (2008) further explain the different power of actors and their positions in GPNs. They state that the relative power of actors within a GPN depends largely on the extent to which each possesses assets sought by the other party and the extent to which access to such assets can be controlled, “the scarcer the asset the greater the bargaining power it conveys and vice versa (Coe et al., p. 276).” Hence, the firms in the weakest position are those producing what are in effect commodities that are easily replaced. But this is not necessarily a static situation: firms can upgrade their assets and competencies to achieve better secure positions.

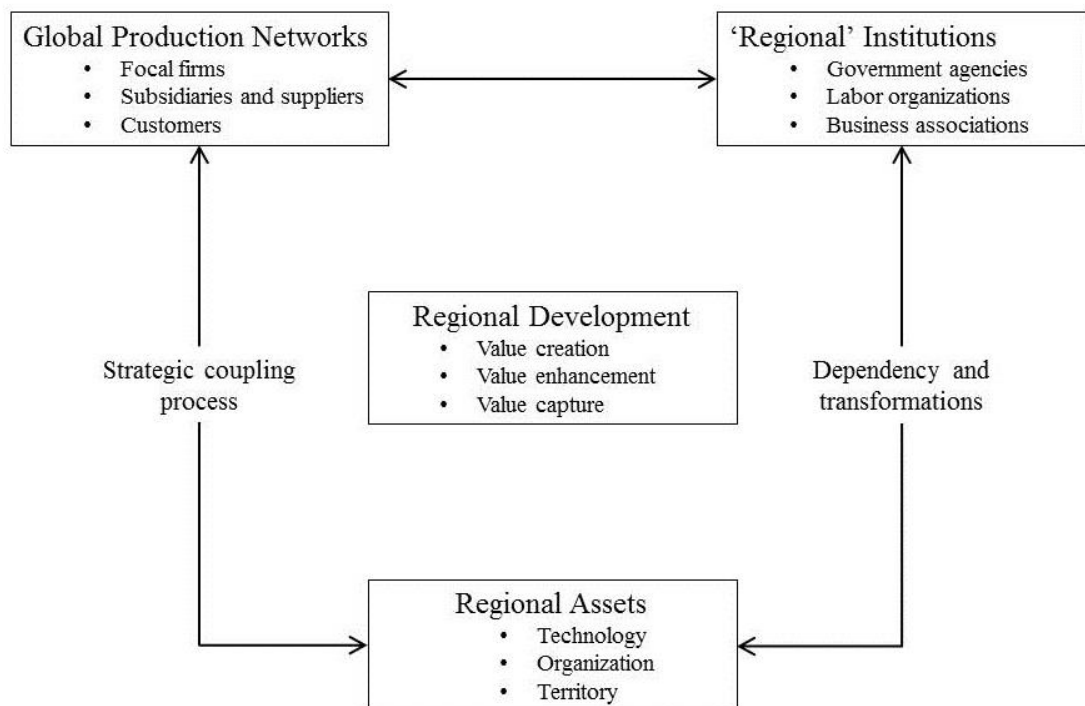
“Embeddedness” indicates the GPN firms that have both territorial embeddedness and network embeddedness. As explained by Henderson et al. (2002), the first form deals

with the various GPN firms that are embedded in specific places because they are absorbed or constrained by the economic activities and social dynamics in those places. For example, they may choose to locate in some specific places to take advantage of established local clusters, an abundant supply of cheap labour, or well-developed social networks. Accordingly, because of the location of the GPN firms, especially the lead firms, it is possible to generate a new local or regional network of economic and social relations, involving existing firms as well as attracting new ones, resulting in value creation and enhancement. Embeddedness is then made a key element in regional economic growth and in capturing global opportunities. Moreover, national and local government policies may function to embed particular parts of a GPN in particular places to facilitate the formation of new nodes in global networks. However, Henderson et al. (2002) argue that the positive effects of territorial embeddedness cannot be taken for granted over time. It would be possible to undermine the local base for economic growth and value capture, if a “disembedding” takes place meaning the lead firms disinvest or close their plants in particular locations. As a firm-centric production network within a global context, GPN also has the feature of network embeddedness. It is the architecture, durability and stability of the relationship of the network members that determines an individual GPN firm’s relationship with other actors, and the structure and evolution of the GPN as a whole (both production networks and institutional networks are included).

Coe et al. (2008) think that as the geographical extensiveness and complexity of GPN increases, the nature of the embeddedness becomes similarly complex. They attach great importance to the interplay and interaction between firms and communities in which they are located. On the one hand, a particular territorial embeddedness of individual firm units/branches may play a significant role in that unit’s capability to create or maintain its specific intra-firm role (in some ways this can be interpreted as its network

embeddedness), and affect the decisions of the firms to invest, reinvest or disinvest in specific locations. On the other hand, the nature of production networks, in which individual firms or establishments are connected, has a profound influence on their prospects and that of the communities in which they are located.

Figure 2.1 A framework for analysing regional development and global production networks



Source: Coe, Hess, Yeung, Dicken and Henderson (2004).

Although GPNs are explicitly firm-centric production networks, with lead firms playing dominant roles in a GPN, one of the advantages of adopting the GPN approach is the ability to explore the impact of non-firm actors in GPNs. Among those non-firm actors, regional development is considered as a product of “strategic coupling” between GPNs and regional assets as shown in figure 2.1 (Coe, Hess, Yeung, Dicken and Henderson, 2004; Yeung, 2009). It is defined as “a time-space contingent convergence of interests and cooperation between two or more groups of actors who might not act in tandem with

a common strategic objective” (Yeung, 2009: 332) in regional development. One of the characteristics of strategic coupling between these firms and their developmental state is that in the coupling process, time-space contingency is not permanent and is subject to change. In other words, regional-specific assets offer an important resource for regional development, but must be harnessed by regional institutions to “complement the strategic needs of trans-local actors situated within GPNs” (Coe et al., 2004: 470). An evolutionary perspective on strategic coupling among various institutions is thus essential to better understand a regional transformation in the globalizing economy.

Mackinnon (2012) pushes the discourse of GPNs and regional development further by developing a broader conception of the range of coupling, recoupling and decoupling processes that take place between regions and GPNs. He argues that regions have the capacity to enhance their position within GPNs through a process of upgrading and value enhancement, based on a recoupling process of regional assets and lead firms in the GPN. However, sometimes such recoupling may occur at the expense of other regions that lose out on new rounds of investment, namely the process of decoupling. Hence, recoupling and decoupling represent key manifestations of uneven socioeconomic development.

Generally speaking, a GPN framework that consists of the above three principle elements, and is applied to elaborate the interrelationship between regional development and global production networks, is particularly promising for measuring the development of LDCs (either national or regional) that have integrated in global networks. Hence, a GPN framework is believed to facilitate an understanding of what value is generated, enhanced and captured by LDCs, and the means and mechanisms to manage and retain value.

However, although GPN scholars have laid out its multi-faceted and networks-based

approach which is superior to the linear and dualistic GVC analysis, Levy (2008) and Coe et al. (2008) observe that most studies adopting the GPN framework so far are very similar to those using the GVC ones. A main aim of the GPN approach is to “globalise” regional development through a focus on links with GPNs (Coe et al., 2004), and a significant amount of research is elaborated on and applied to the concept of strategic coupling in interpretation of the articulation of the host region into global networks. But it falls short of explaining how they actually translate these global linkages into local development outcomes (for example, see Yang (2007, 2009, 2013), Yang and Coe (2009), Yeung (2007), Liu and Yang (2014)). Their studies tend to overemphasise the perspective of TNCs, which is close to a GVC analysis; in the meantime, little critical appraisal about regional development within the GPN is developed. What is more, one of the main virtues of the GPN framework that is distinguished from GVCs is its network approach. More specifically, regional development in the GPN framework is defined as a dynamic outcome of the complex interaction between territorialised relational networks and global production networks within the context of changing governance structures. In this regard, there is not enough work to elaborate GPN’s explicit geographical orientation and sensitivity, especially the dynamic changes of regional assets in the structural coupling process. Furthermore, social-political factors, which are the key elements of the GPN framework, still do not receive enough attention. Even though the strong support or intervention of governments or other institutions is considered beneficial for the molding of regional assets, research on GPNs so far is weak on historical evolution and transformation of production networks and regional assets over time (Mackinnon, 2012).

Moreover, these GPN scholars present their case studies in qualitative research methods with most data collected from certain firms’ questionnaires and interviews, observations, and documents. It is inevitable that the representativeness and comprehensiveness of such

data should be questioned, due to the lack of substantial quantitative analysis covering a relatively long period.

In order to contribute to a sophisticated and integrated GPN framework which can be applied to the regional study in a globalised world, this thesis aims to deliver a comprehensive assessment of regional development with solid quantitative and qualitative evidence, and to interpret the mechanism and effects of value generation, enhancement and capture in particular developing regions. Another aim of this thesis is to reflect some of the underdeveloped aspects of the GPN research to date, mainly the impacts of dynamic socio-political factors on the strategic coupling with GPNs, with the purpose of contributing a better understanding of the complexity of contemporary economic globalisation and its interaction with territorial development.

2.5 GPN and the study of the PRD area

It is often argued that Western theoretical paradigms are not suitable for China due to cultural and historical differences. The characteristics of Chinese political and social systems, such as so-called *guanxi* (social connections and networks), are usually not considered as being subject to Western assessment criteria. However, as discussed above, the GPN approach is broad, inclusive and network-based, that attempts to incorporate all relevant factors and actors into the study of regional development and globalised production. Thus, it is reasonable to believe that the GPN could serve as an appropriate framework to explore the cases of China in a globalised world.

From here on, this thesis will discuss the industrialisation and regional development from

the perspective of the GPN, through the comparative study of the different development models of the two cities in the Pearl River Delta (PRD), Dongguan and Foshan. As the largest and most export-oriented region of China, most of the research of the PRD area in the earlier period focused on the choice of location of FDI inflows and its spatial impact. Industrialisation and urban development are conceptualised as externally driven and Hong Kong-induced (Tuan and Ng, 1995, Leung, 1996, Lin, 1997, Sit and Yang, 1997, Eng, 1997, Shen et al., 2000). They illustrate the development path and characteristics of Hong Kong investment in the PRD area, such as clustering in the border areas and engaging in traditional labour-intensive manufacturing industry. The promotion of Hong Kong investment in the context of the PRD's economic takeoff and its participation in global production networks during the 1980s and early 1990s is generally recognised. The industrial policy of national and local governments, and close kinship connections also played significant roles in this process. As the economy of the PRD has evolved and has become integrated with Hong Kong's, Enright et al. (2005), Yang (2005, 2006) and Cheung (2012) draw attention to the fact that the economic and political relationship between Hong Kong and the PRD area has changed remarkably. The roles of the two areas have gradually developed from pure investor-recipient to collaborators of the Greater PRD area¹⁹, which is expected by governments to develop into a world-class manufacturing region, or even sometimes competitors to apply for favourable national policies, infrastructure projects and foreign investment. In fact, Hong Kong investment, which has hardly changed over the decades in the PRD area (Tuan and Ng, 2004), has been eclipsed by Taiwanese investment since the 2000s (Yang, 2007).

In spite of the flourishing of academic output on the PRD area from the mid-1990s to

¹⁹ The Greater Pearl River Delta area consists of nine cities in the PRD area: Guangzhou, Shenzhen, Zhuhai, Foshan, Huizhou, Dongguan, Zhongshan, Jiangmen, and Zhaoqing; plus Hong Kong Special Administrative Region (HKSAR), and Macao Special Administrative Region

early 2000s, consistent in-depth research of this area has been less substantial. An exception rather than a rule, Yang (2007, 2009, 2012, 2013, with Liu, Y., 2014) has conducted substantial empirical studies that apply the GPN framework. By exploring Hong Kong and Taiwanese investment in Dongguan, she finds that their divergent practices relate to not only corporate strategies of parent and branch firms, but also industrial policies of home regions, their linkages with global leaders, and home-host interactions (Yang, 2007). Comparing the spatial relocation of Taiwanese personal computer investment from the PRD area to the YRD area since the early 2000s, she put forward the terms “implicit coupling” and “explicit coupling” to account for the coupling types of the two areas. Implicit coupling that occurs in the Dongguan region of the PRD area is initiated by the third and fourth tier of Taiwanese supplier firms, without active or effective local initiatives. Explicit coupling that takes place in Suzhou of the YRD area, is driven by regional and local authorities through specific initiatives. As Taiwanese investors’ bargaining power has increased over local and regional authorities, she suggests that the asymmetrical power relationship between investors and host regions may induce territorial disembeddedness (Yang, 2009). Through an investigation into Guangdong’s industrial restructuring since 2005, she argues that prevailing institutions conducive to the export-oriented processing trade have evolved into a state of institutional inertia and territorial embeddedness which have been obstacles to the call for economic restructuring in response to the market reorientation from export to domestic sales. Additionally, difficulties of restructuring through state-designated relocation have been heightened by resistance from below and emerging state-firm tensions (Yang, 2012).

Although Yang has made a remarkable contribution to research into industrial development in the PRD area through the perspective of GPN, as discussed previously, most of her data is collected from firms’ survey and interviews of government officials.

This method lacks sufficient analysis of long-term data and perennial statistics. Furthermore, Yang's work lacks critical appraisal of regional development which is one of the emphases of the GPN framework. This insufficiency is actually widespread in the current study of GPNs, which has been challenged for "overemphasising" the role of global lead firms (Wei, 2010), and "underestimating" regional or localised channels of production arrangements (Kim, 2011).

Additionally, as Yang (2013) suggests, the rise of domestic market and consumers in host countries/regions, as well as their effects on industrialisation and regional development, has been largely neglected in terms of conceptual constructs and empirical analyses of regional development from GPN/GVC perspectives. The case of Foshan in this thesis is actually different from other parts of the PRD area, most of which were developed from export-oriented industries and developed from foreign investment. The economy of Foshan has been mainly based on its local entrepreneurship and China's uniquely vast market even from the beginning of reforms. However, literature on the unique case of Foshan is very scarce. In this respect, the case study of Foshan in this thesis attempts to enrich and broaden the discussion of regional development which relies mainly on domestic consumption within the GPN framework.

Hence, it is expected that the following cases study of Dongguan and Foshan will enrich the GPN literature that focuses on industrialisation and regional development in the global context through quantitative and qualitative evidence.

2.6 Methodology account

I have chosen to use the case study as the main methodology of this thesis. As an

extensively adopted methodology in GPN literature, it can incorporate different kinds of data and factors that may affect regional development, to give an in-depth understanding of certain chosen cases, corresponding to the comprehensiveness of GPN framework. In order to grasp related materials that may contribute to shaping development models of Dongguan and Foshan, I conducted fieldtrips in these two cities in August 2012 and August 2013.

The fieldtrips of this study consisted of two one-month fieldtrips. During the fieldtrip, I interviewed eight people in total who worked in Dongguan, Foshan and Guangzhou as government officials, customs officials, businessmen, news reporters, representatives and staff members of local businessmen association/chambers of commerce²⁰. I located such individuals through my personal network. All of the interviews were conducted as individual in-depth interviews. Each interview lasts for 40-60 minutes. The interviews were audio-recorded upon the approval of the interviewees. The interview data was transcribed into words in Chinese, and thematic analysis of the interview data was conducted to generate themes related to the development models of Dongguan and Foshan.

During fieldtrips, I collected government-related documents, such as policy documents issued by local governments, proceedings of government meetings, and government-authored annual reports. I also collected industrial statistics and surveys from customs, enterprises, local business associations, and news media²¹. I also visited factories in Dongguan and Foshan, and their factory outlets, where I got first-hand experience of their industrial practices. In these locations, I collected opinions from employees and customers.

²⁰ See a full list of interviewees in Appendix 1.

²¹ See a list of data sources for the cases study in Appendix 2.

I chose two districts in order to explore further the development modes of Dongguan and Foshan. One is Shijie county in Dongguan, the other is Shunde district in Foshan. They were chosen for two reasons. First, my personal networks offered me convenient access to local governmental and business institutions, which was advantageous in realizing the objectives of my study. Second, both of them are representative of the economic development model of Dongguan and Shunde.

Chapter 3 Guangdong Province and the PRD Area

Guangdong's economic model represents a typical path of development in developing countries—export-oriented labour intensive industries—and has completed industrialisation in a predominantly agricultural region without being endowed with exclusive and rich natural resources. This chapter reviews the overall development of the province, and uses its most developed area—the PRD area—as a case study to interpret the origins, path and characteristics of its development model. Section 3.1 presents an overview of Guangdong province, and assesses the economic characteristics of Guangdong. Section 3.2 reviews the export-oriented model of the PRD area, and the challenges of labour shortages, rises in production cost and environmental issues facing the area. Section 3.3 elaborates the development of the specialised township which is the most significant characteristic of its rural industrialisation. Finally, section 3.4 summarises and delivers a discussion within the theoretical framework of GPN.

3.1 The Overview of Guangdong Province

3.1.1 The Economic Development of Guangdong

Guangdong province (Figure 3.1) was known as Canton or Kwangtung in English in the past. It is located in the southern part of China facing the South China Sea to the south, covering a land area of 179,800 square metres. The 2,400-long Pearl River is the third longest river in China, consisting of three main tributaries of *Xi Jiang* (West River), *Bei*

Jiang (North River) and *Dong Jiang* (East River). The rivers that run through the province discharge into the South China Sea, forming the Pearl River Delta, which is one of the most densely cultivated areas of the country. Due to its special geographical position, Guangdong has for long served as a window of the country to the world. Besides its geographical position, Guangdong's people have spread throughout the world, making the province the regional origin of many overseas Chinese.

Figure 3.1 Map of Guangdong's location



Source: OECD (2010).

Note: The place names are added by the author.

Guangdong has been the most populous province of China since 2005 and in 2013 had a population of 105.9 million. There are two sub-provincial²² cities and 19

²² Sub-provincial cities enjoy the same authority over economic and social development planning as provincial governments. Some cities, like Shenzhen, Xiamen, Ningbo, Qingdao and Dalian, are independent of provincial financial budget, and are able to distribute revenue on their own. But all of the sub-provincial cities are still under administrative jurisdiction of provincial governments as are other prefecture-level cities. The top level leaders of sub-provincial cities are appointed directly by the central government. There are 15 sub-provincial cities in China, and the total amount of their GDP accounts for roughly 1/5 of national GDP.

prefecture-level²³ cities under Guangdong province. One of the sub-provincial cities is Guangzhou²⁴, the capital of the province; the other is Shenzhen, the first Special Economic Zone (SEZ) of China.

Guangdong province was selected as one of the provinces to carry out the pilot scheme of opening and reform at the end of 1970s, in consideration of its geographic location away from most parts of China and its close ties with overseas Chinese. The central government initiated a series of trial policies in the province, which included operating business and allocating production materials and resources, partly by means of the market, expanding local power to determine economic plans, commodity prices, wages, foreign investment, etc. While the fiscal revenue and foreign exchange that the province earned was delivered to central government, and remained at the fixed level for five years, the provincial government had the autonomy to distribute the remainder. In 1980, the National People's Congress approved Shenzhen²⁵, Zhuhai, Shantou and Xiamen as the first of four Special Economic Zones (SEZs), of which the first three are located in Guangdong. The SEZs were established with the aim of attracting and utilizing foreign

²³ China's existing administrative divisions generally consist of three levels: the provincial level, which includes 23 provinces such as Guangdong and Fujian, five ethnic minority autonomous regions such as Xinjiang and Inner Mongolia, four prefectures directly under central government such as Beijing and Shanghai, and two special administrative regions, Hong Kong and Macau; prefectures, which includes sub-provincial cities such as Guangzhou and Shenzhen, and prefectural cities such as Dongguan and Foshan; and counties, including prefectural districts and counties. Below the county level, township and village are the lowest administrative units. In particular, the village is the unofficial administrative unit which is a form of self-governing organization. Village officials thus have no formal bureaucratic positions. There are exceptions to these three levels of administrative jurisdiction. In the case of Dongguan, a total 32 towns are answerable directly to the prefectural government since county-level government does not exist. Since 2009 Shunde district (formerly county) of Foshan city has been granted a degree of prefecture-level autonomy over certain matters, notably, economic development and finance. It is directly under the jurisdiction of Guangdong provincial government, but still keeps regular administration, such as legislation, urban planning, and social security under the prefecture of Foshan.

²⁴ Guangzhou is the capital of Guangdong province, and one of the two sub-provincial cities of Guangdong. It is the third largest Chinese city and southern China's largest city. Guangzhou is one of China's leading commercial and manufacturing regions. The industrial output value of the three pillar industries, automobile manufacturing, electronic communications and petrochemical industries, accounts for about one-third of the value of the city's industrial output (GDBS, 2010).

²⁵ Shenzhen is one of China's first and most successful SEZs, and the other sub-provincial cities of Guangdong. It borders Hong Kong Special Administrative Region (SAR) to the south, and is a prefecture of Guangdong province, holding sub-provincial administrative status, with powers slightly less than a province. From 1994 to 2009, it ranked top among all large and medium-sized Chinese cities in import and export volume. It is the production and research centre for high-tech products such as computers and software development, communication equipment, audio-visual products, optical electromechanical products, biomedical products and medical equipment. These constitute the backbone of the city's economic activity.

capital. They were given special tax incentives for foreign investment and accordingly saw much greater free market-oriented economic policies and flexible governmental measures than the rest of mainland China. The SEZs were listed separately in national planning (including the financial budget) and had province-level power over economic administration. These policies empowered the SEZs to attract foreign investors to form Sino-foreign joint ventures (JVEs) and partnerships as well as wholly foreign-owned enterprises (WFOEs). Most of these enterprises were primarily export-oriented. Their intention of moving production to mainland China was to save on costs which were rising in their home countries. Moreover, Chinese domestic markets were not available to them at the time. In 1985, the central government chose the PRD²⁶, the Yangzi River Delta (YRD)²⁷ and Xiamen-Zhangzhou-Quanzhou Delta of Southern Fujian as the coastal economic open zones to further develop the processing trade, which it was hoped could promote the development of other industries and regional growth. During this time, the eastern PRD, especially Shenzhen and Dongguan, became the most significant recipients of manufacturing industries shifted from Hong Kong.

Although Guangdong was chosen as one of the first provinces to carry out reform and opening up and establish FIEs in the late 1970s, large FDI inflows did not occur in the initial period because of the poor infrastructure and a local lack of experience in dealing with foreign investors. The national economic development in the period from 1984 to late 1980s saw steady growth, and a significant surge in FDI inflow subsequently took

²⁶ The area of the PRD economic open zone here was smaller than the one we know today. It included four cities and 12 counties: Foshan prefectural city, and Zhongshan county-level city, Nanhai county, Shunde county and Gaoming county, all under Foshan; Jiangmen prefectural city, Kaiping county, Xinhui county, Taishan county, Heshan county and Enping county that were all under Jiangmen; Panyu county and Zengcheng county, both of which were under Guangzhou prefectural city; Bao'an county under Shenzhen prefectural city; Doumen county under Zhuhai prefectural city; and Dongguan county-level city under Huiyang area. The population of the PRD zone in the period was 9.51million, and the total area was 21,492 square kilometres (Lu, 2009). It then extended to the neighboring regions and included 28 cities and counties in 1986 and 1987.

²⁷ The YRD area originally referred to Shanghai, southern Jiangsu province and northern Zhejiang province. Now it generally covers Shanghai, Jiangsu province and Zhejiang province. In 2012, YRD had a total area of 211,000 m² and had a population of 157.77 million. Its GDP was 10890.53 billion yuan, and per capita GDP was 69,175 yuan. The total FDI introduced by the area was \$6.40 billion, and its export and import values were respectively \$759.85 billion and \$537.02 billion (NBS, 2013a).

place after 1992. After economic retrenchment in late 1988 and the subsequent political and economic crisis in 1989, Deng Xiaoping, the de facto top CCP leader who initiated reform and opening-up, reinvigorated economic reform. He made a ‘Southern Tour’ in 1992, in which he called for bolder reforms. During his month-long tour, Deng visited 10 cities, 4 of which were in Guangdong, including Shenzhen, Zhuhai, Shunde and Guangzhou. He encouraged Guangdong to catch up economically with the wealthy “Four East Asian Tigers” in 20 years.

Held the same year, the leadership at the 14th National Congress of the CCP identified the significance of the market by aiming to create a socialist market economic system, and underscored that the market should play a fundamental role in the allocation of resources under national macro-control. It proposed further reform of SOEs, clearing definition of property rights and the reduction of direct government intervention in the market and firms. The confidence of foreign investors was enhanced by the Government’s actions, facilitating an influx of a large amount of investment across China, including in Guangdong province. The number of newly approved foreign investment projects in 1992 was 48,764, increasing 2.8 times nationally more than 1991. The total of contractual FDI nationally was more than \$58 billion in the same year, which exceeded the total of the previous 13 years. Furthermore, the total amount of FDI nationally reached US\$ 11 billion and exceeded foreign loans for the first time to be the principle mode of foreign investment in China (NBS, 1993). At the same time, the ownership reforms began to be carried out in 1993, enabling firms to play an increasingly flexible and important role in the market rather than being dependent on the government. A large number of collective-owned enterprises (COEs) and SOEs were converted into private-owned enterprises (POEs). This was particularly salient in Guangdong, an area with a large number of COEs.

As suggested by Zhang (1994), the reform and opening to overseas investment have drastically activated Guangdong’s potential advantages, which are geographical proximity to Hong Kong and Macau, its historical and ethnic connections with overseas Chinese and a degree of traditional in dealing with outside world. Furthermore, the reform enabled local governments to take the initiative, that some were succeeded in developing entrepreneurial governments, infrastructure, industrial specialisation and a more open economy. Guangdong has had the largest GDP and FDI among China’s 31 provinces. In 2012, it accounted for more than one tenth of national GDP, more than 12 per cent of total fiscal revenue of all provinces, more than a quarter of the value of national exports and imports, and more than 20 per cent of national FDI. Moreover, its per capita GDP is more than double the national level (Table 3.1). In the past decade, Guangdong’s economic output has surpassed three of the “Four East Asian Tigers”—Singapore, Hong Kong and Taiwan. Its GDP in 2013 was about 6.2164 trillion *yuan* (US\$ 1.0038 trillion, at an annual average exchange rate of 6.1928 in 2013), only marginally less than Korea (US\$ 1.3046 trillion in 2013) (World Bank, 2014), the other “East Asian Tiger”. However, the average per capita GDP of Guangdong was US\$ 9,453, far lower than Korea’s US\$ 25,977, and the same level as Romania (US\$ 9,499) (World Bank, 2014b).

Table 3.1 Guangdong province in the national economy, 2012

Item	Unit	Guangdong Province	China	Guangdong Province as a percentage of China (%)
Total Population	10,000 persons	10594	135404	7.82

Urban Population	10,000 persons	7140	71182	10.03
Total Land Area	10,000 Sq.km	17.98	960.00	1.87
GDP	100 million <i>yuan</i>	57067.92	516282.1	11.05
Per Capita GDP	<i>yuan</i>	54095.38	38448.51	/
Urban Per Capita Disposable Income	<i>yuan</i>	30226.71	24565.00	/
Rural Per Capita Net Income	<i>yuan</i>	10542.84	7917.00	/
Local Public Budgetary Revenue	100 million <i>yuan</i>	6229.18	61078.29	10.20
Total Investment in Fixed Assets	100 million <i>yuan</i>	19307.53	374676.00	5.00
Total Value of Import and Export Commodities	\$, 100million	9840.20	38671.19	25.45
Total Value of Imports	\$, 100million	4099.70	18184.05	22.55
Total Value of Exports	\$, 100million	5740.51	20487.14	28.02
FDI	\$, 100million	235.49	1117.16	21.08
Numbers of FIEs*		98564	440609	22.37

Source: Compiled by author from NBS (2013a) and GDEI (2013)*.

Note: The national data in this table does not include data from Hong Kong SAR, Macau SAR and Taiwan province.

However, Guangdong's economy represents an extreme regional imbalance largely due to uneven investment. In order to narrow the urban-rural income gap, the provincial government has promulgated the strategy '*Dual Transfer of Industry and Labour*' since 2005. On the one hand, it represents a spatial allocation of resource between developed and less developed areas, which aims to phase out labour-intensive and low-technology industries from the PRD area to mountainous areas, in order that the former area has more

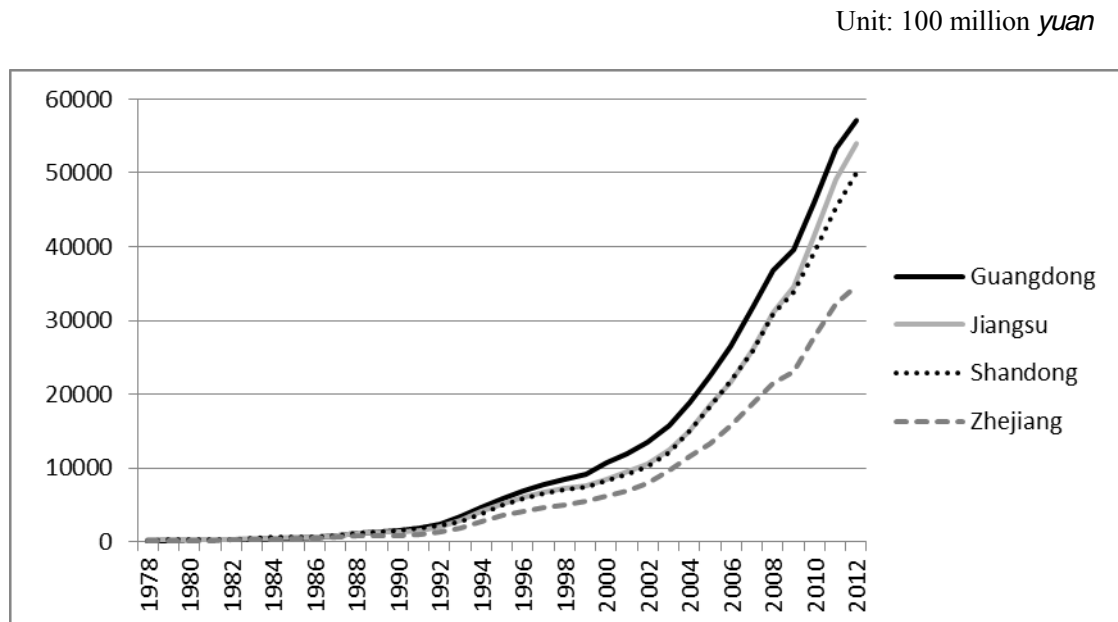
available land and resources to develop advanced manufacturing and service industries; on the other hand, it aims to enhance the spillover effect from the PRD area to other parts of Guangdong. The provincial government assigns different PRD cities and less developed cities as partners to set up *industrial transfer parks* to accommodate factories moved from the PRD. Thus Dongguan has collaborated with Shaoguan, Maoming, Meizhou, Huizhou and Yangjiang to establish nine parks, while Foshan has collaborated with Yangjiang, Yunfu, Zhaoqing, Zhanjiang and Qingyuan to construct eight parks. Every year between 2009-2013, each city in the PRD (except Jiangmen) area has been required to allocate no less than 100 million *yuan* for infrastructure projects, with senior cadres in the PRD region sent to work or taking temporary posts in less-developed areas (Guangdong Provincial Government Document, 2009). Additionally, since 2008, the provincial government promised every year to appropriate 1.5 billion *yuan* for supporting the three most competitive parks, rewarding 500 million *yuan* to PRD entrepreneurs who transferred their factories to less-developed areas. At the same time, the provincial government called on aggrandizing input in workforce education and training (Guangdong Provincial Committee of CCP and Provincial Government, 2008). By 2012, Guangdong had invested 77.7 billion *yuan* in total, establishing 36 industrial transfer parks in less-developed areas. As a government-oriented movement, it is still far off its targets—it had contracted 819.41 billion *yuan* and 3,099 projects but actually 255.48 billion *yuan* and 1,795 projects had been completed by the end of 2012 (GDEI, 2013).

3.1.2 The assessment of Guangdong's economic development

As the first province to carry out reform and opening, Guangdong has enjoyed the economic dividends of political reform over the past three decades. It has assumed a

leading position in terms of GDP, of all provinces of mainland China. Figure 3.2 shows that Guangdong has been ahead of other provinces in terms of annual GDP since 1989.

Figure 3.2 Provincial annual GDP, 1978-2012



Source: Compiled by author from GDBS (2013), JSBS (2013), SDBS (2013), and ZJBS (2013).

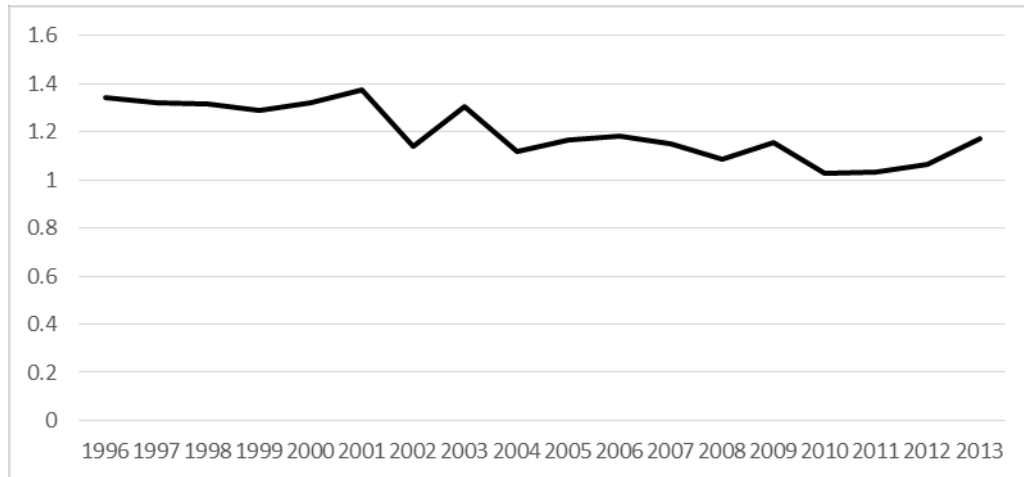
However, the gap between Guangdong and other provinces is shrinking, particularly in the case of Jiangsu and Shandong. The two provinces have made significant economic progress by developing export-oriented industries as well. But unlike Guangdong, they have substantial industrial foundation and a pool of available talent that they possessed well before the reform era. Additionally, Jiangsu has replaced Guangdong as the biggest FDI recipient of the country since 2003. During the years of 2010-2012, the number of new registered FIEs each year in Jiangsu has been only half of Guangdong, but the new investment made by FIEs each year in Jiangsu has been increasingly more than Guangdong's (separately 20 per cent, 26 per cent and 30 per cent more in 2010, 2011 and 2012) (NBS, 2013a). This implies that either TNCs are likely to invest more in Jiangsu than in Guangdong, or larger and more powerful TNCs have preferred to invest in Jiangsu

than Guangdong.

Figure 3.3 and 3.4 show productive efficiency of Guangdong relative to Chinese total industrial enterprises²⁸ as a whole. In figure 3.3, the relative labour productivity series has exhibited a fluctuating trend coinciding with international and domestic economic contexts. For example, the burst of the dot-com bubble in 2000 led the new economy of the U.S. with high growth, low inflation and high employment into recession. As China's largest export market, recession in the U.S. deeply affected the economic performance (economic output and labour employment) of Guangdong and China. Increasing growth from 2002 was believed to have occurred because of the massive expansion of FDI after China's accession to WTO, while increasing growth in 2009 was assumed to be the result of the stimulus policy issued by the Chinese government in response to the global financial crisis. Although there have been a few periods of rising growth during the past ten years, the trend has been towards stagnation at a low level, not reaching the heights of the 1990s. This indicates that the labour productivity of Guangdong has changed little, or even declined relative to China's total level. A low-level of labour productivity also implies Guangdong has realised its industrial growth by mainly utilising cheap and less-skilled labour.

²⁸ All related data of manufacturing sector hereafter denotes the data of the industrial enterprises above designated size, unless otherwise noted. Regarding the scale of designated size, from 1998 to 2010, the industrial enterprise above designated size refers to the enterprise whose annual principal business revenue is over 5 million yuan. Since 2011, the designated size of annual principal business revenues has raised to 20 million yuan or above.

Figure 3.3 Relative labour productivity of Guangdong, 1996-2013

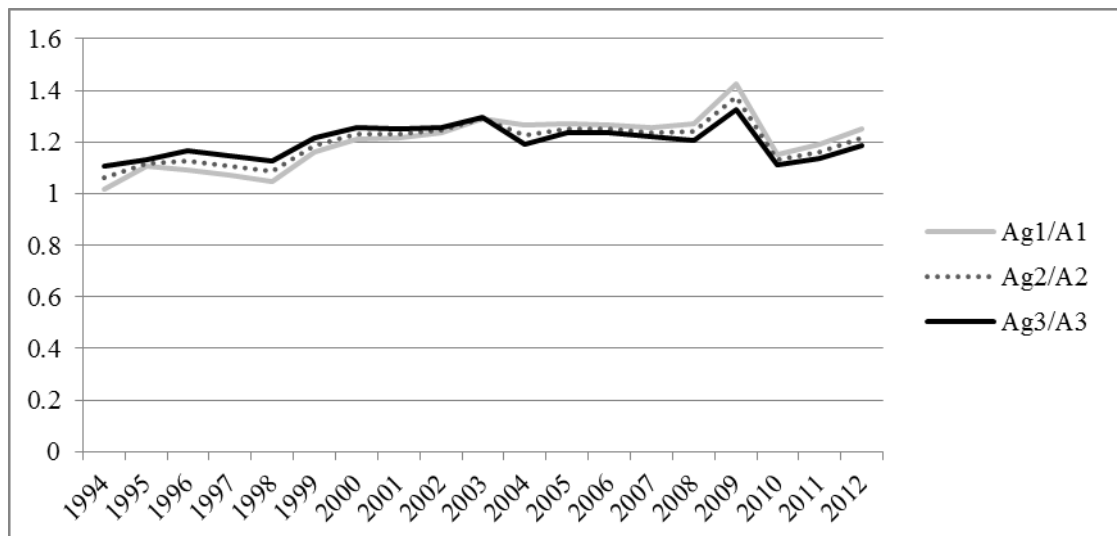


Source: Compiled by author from *National Statistical Yearbook* and *Guangdong Statistical Yearbook*, various years.

Note: 1. Labour productivity=industrial added value produced (current price, 100 million yuan)/the annual average number of employment (10,000 persons). Relative labour productivity of Guangdong=labour productivity of Guangdong/labour productivity of China.

In figure 3.4, total factor productivity (TFP), representing Guangdong's overall efficiency performance, changed little during the period of 1994-2012, with the exception of 2010.

Figure 3.4 TFP levels of manufacturing sector: Guangdong relative to China, 1994-2012



Source: Compiled by author from *Guangdong Statistical Yearbook*, *Dongguan Statistical Yearbook* and *Foshan Statistical Yearbook*, various years.

Note: 1. Assume the level of TFP, $A=V/(K\alpha L\beta)$, where $\alpha + \beta= 1$. In the figure, the three curves of relative TFP, 1, 2, and 3, correspond to α taking a value of 0.6, 0.5, and 0.4, respectively.

2. Figures with no subscript of letter refer to industrial enterprises of China; those with subscript “g” refer to industrial enterprises of Guangdong.

It can be inferred that the steep decline was caused by the global financial crisis and a ceasing of Chinese stimulus policy. The whole trend shows the productive efficiency of Guangdong had no significant advancement in the post-WTO period. Moreover, figure 3.4 estimates the TFP levels for the manufacturing sector for values of the parameter on a reasonable interval. The values are considered to be 0.4, 0.5, and 0.6. The results show that the patterns are close to each other.

Generally speaking, Guangdong did not do as significantly well in terms of productivity performance as it did in terms of total economic output. The relative values of Guangdong to China in labour productivity and TFP were both slightly above one, which are not desirable since Guangdong is the largest economy of the country. It implies that Guangdong did not make satisfactory advancement in regards to the quality of skilled labour and technological progress. The decreasing gap of GDP between Guangdong and other provinces, as well as the diminishing dividends as the first mover of the reform, are reminders that Guangdong is likely to be less competitive if it wants to maintain industrial growth by relying on the current labour-intensive model.

3.2 The PRD area

3.2.1 Overview of the PRD area

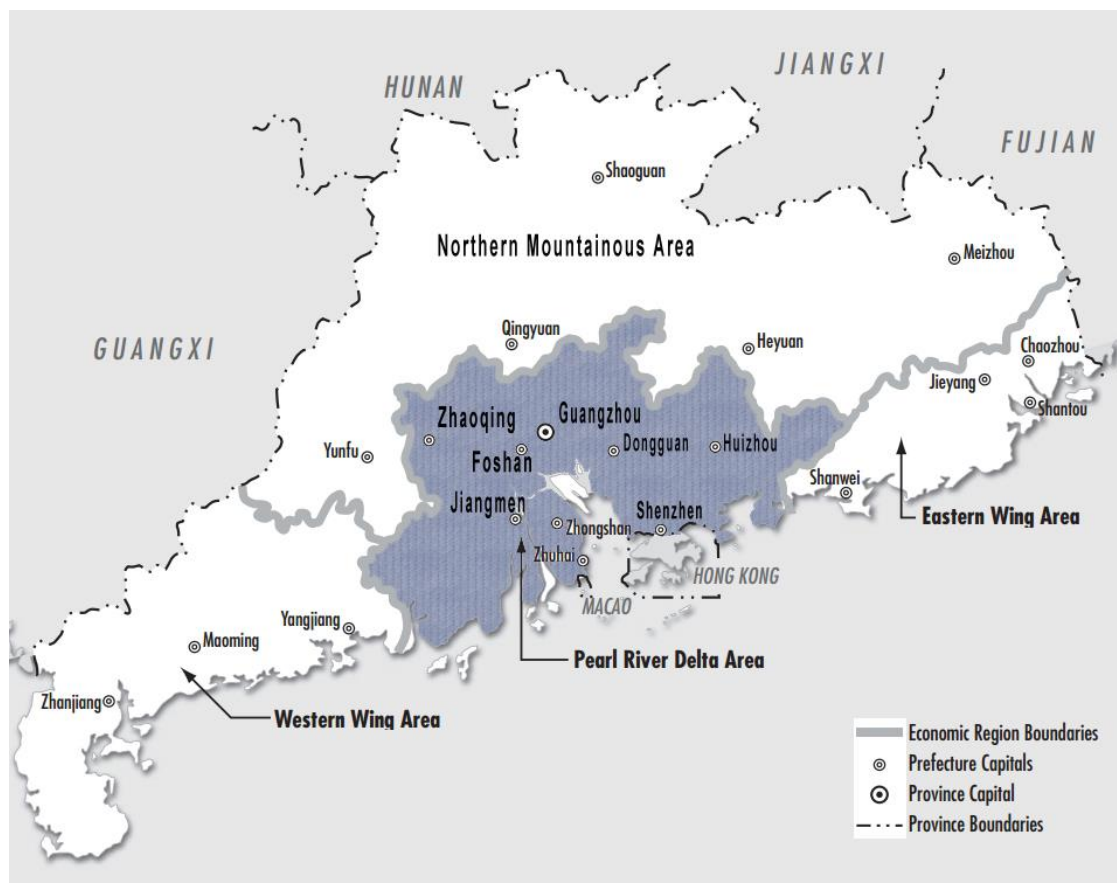
The dark grey area of figure 3.5 is the PRD area and consists of the nine most developed

cities of Guangdong province, namely Guangzhou, Shenzhen, Foshan, Dongguan, Zhongshan, Zhuhai, Huizhou, Zhaoqing and Jiangmen. The PRD area, in terms of physical geography, is a composite delta situated at the confluence of the Pearl River in Guangdong province. Hong Kong is located on the south side of the Delta bordering Shenzhen. The PRD area has been the spearhead for China's campaign of modernisation and development, and one of the most economically dynamic regions of China. The PRD area covers 41,698 square metres, accounting for about 25 per cent of the provincial total. The area has a population of 57.15 million, concentrating over half of the total provincial population. Its GDP in 2013 was 5.3 trillion *yuan*, accounting for 85 per cent of the provincial GDP (GDBS, 2014). The PRD area now is the largest metropolitan area in the world as measured by both area and population. It had surpassed Tokyo, consider to be the largest in the world for a long period, due to its rapidly growing urban area in the last decade (World Bank, 2015).

Benefitting from its close ties with overseas Chinese and preferences for export-oriented industrial development, strong correlations exist between industrial performance and the type of ownership of industrial facilities. Figure 3.6 shows that overseas Chinese-funded firms and FIEs produced over half of industrial output value in seven of the nine PRD cities in 2012. The less developed regions, including the western and eastern wing areas, and the northern mountainous area, all of which were further away from Hong Kong and Macau, have less industrial output value produced by overseas investments. The figure underscores the importance of attracting FDI to the local manufacturing economy, and partly explains why local governments competed vigorously for overseas investment. The four cities of the PRD area, Guangzhou, Shenzhen, Foshan and Dongguan contributed over 60 per cent of the provincial gross industrial output value in 2012. Dongguan, where nearly 70 per cent of industrial enterprises were invested by overseas

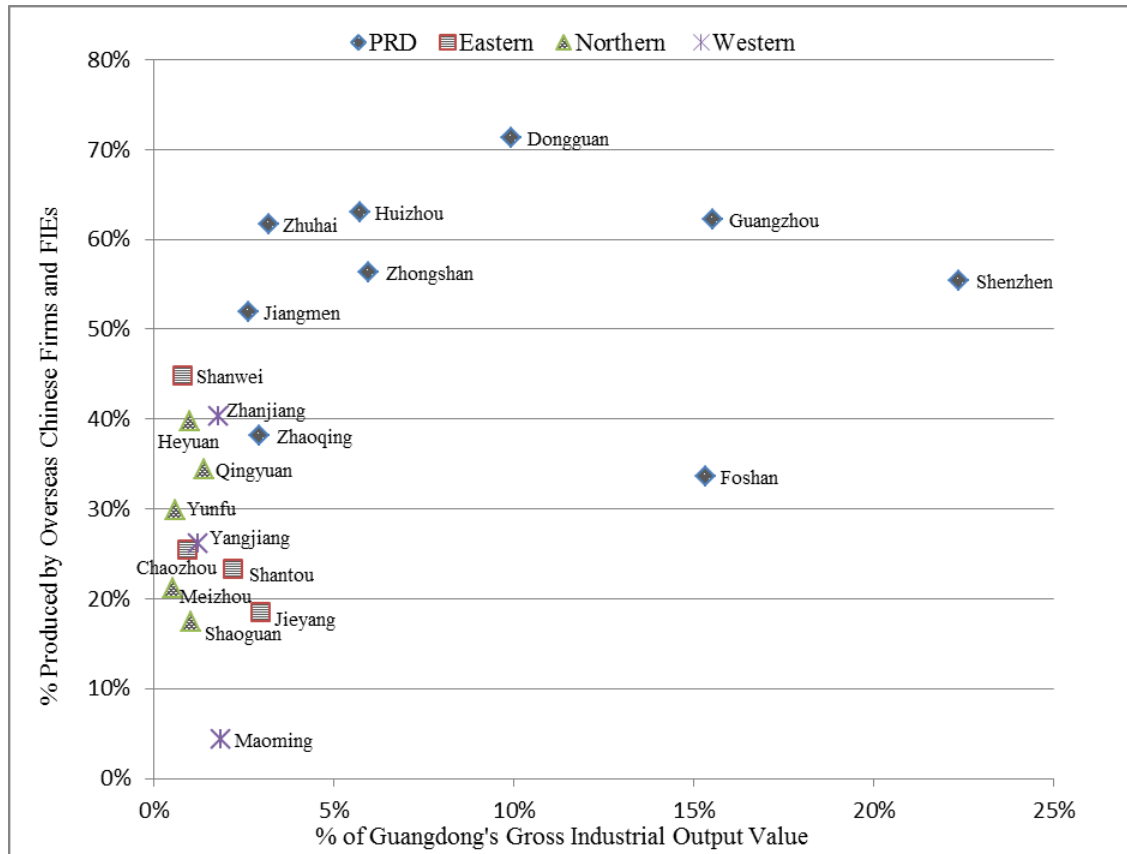
Chinese and foreign investors, and as such had the highest industrial output value produced by overseas investment. However, Foshan was an exception in the PRD area. It took the lead of provincial industrial output value though it had the lowest proportion coming from FIEs and Overseas Chinese firms in the PRD area (33.66 per cent). Even compared with other less developed cities of the province, the proportion of overseas investment in Foshan was relatively little.

Figure 3.5 The PRD area, the northern mountainous area, and the western and eastern wing areas



Source: The World Bank (2011).

Figure 3.6 Cities' contribution to Guangdong's industrial output value, 2012.



Source: Compiled by author from *Guangdong Statistical Yearbook* (2013).

In addition to industrial output value, the main production mode of the firms in the PRD area also show the impact of overseas investment. There are three major modes of manufacturing used by industrial enterprises: original equipment manufacturing (OEM)²⁹; original design manufacturing (ODM)³⁰; and original brand manufacturing (OBM)³¹. Generally speaking, OEM is seen as a preliminary mode of production since the design and specifications of the product are provided by the buyers. The demand for R&D is relatively strong in OBM and ODM. The mode of OBM is also required to cover the

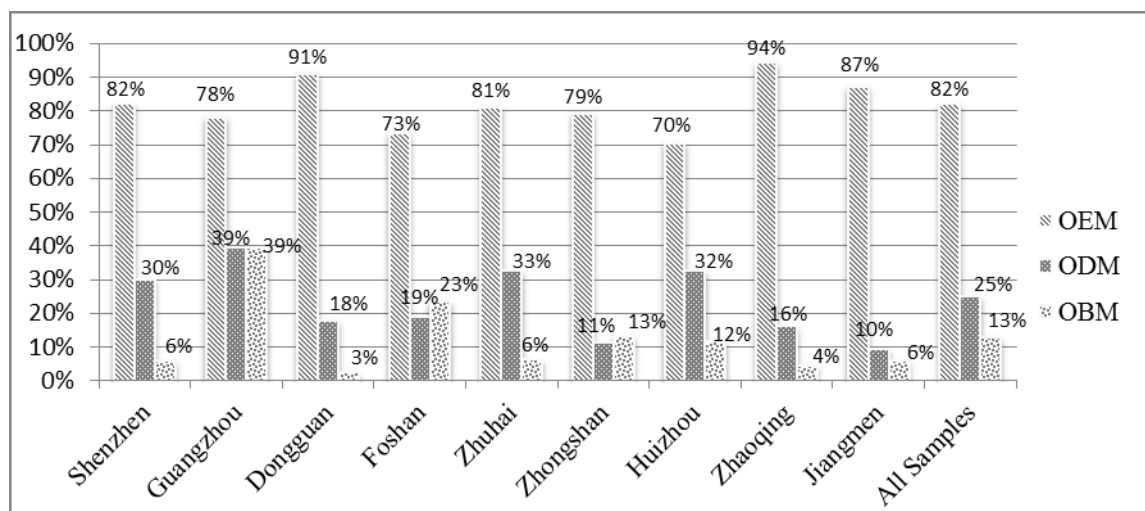
²⁹ OEM (original equipment manufacturing) here refers to a production mode wherein overseas buyers identify the suppliers in the global markets before providing them with the design and specifications of the product and then let the suppliers conduct production and delivery (FHKI, 2007).

³⁰ ODM (original design manufacturing) here refers to the production service for the brands of overseas buyers by manufacturers who also provide development concepts and detailed product design (FHKI, 2007).

³¹ OBM (original brand manufacturing) here refers to a production mode wherein manufacturers build and develop their own brands, purchase the brands of other companies, or even acquire companies with specific brands to market their products through the brands (FHKI, 2007).

operation of marketing and sales, distribution and service support which constitute the necessary parts of a relatively comprehensive value chain. Figure 3.7 shows the survey conducted by FHKI during 2005-2006 which was during a high period of overseas investment in China. It shows in the PRD area, 82.1 per cent of the firms engaged in OEM, 25 per cent in ODM and 12.8 per cent in OBM. Zhaoqing and Dongguan had the highest proportion of OEM as 94.2 per cent and 91 per cent respectively. Even Foshan and Huizhou posted the lowest weightings, their proportions still being over 70 per cent. Compared with OEM, the proportion of OBM and ODM were quite limited. Guangzhou (39 per cent) and Zhuhai (33 per cent) owned the highest proportion of ODM, while Guangzhou (39 per cent) and Foshan (23 per cent) witnessed the highest OBM. Due to its status of provincial capital, as well as its centuries-old industrial and commercial heritage, Guangzhou had a relatively balanced economy in which SOEs and FIEs played almost equal parts. Therefore it is understandable that Guangzhou had the highest proportion of ODM and OBM. Both Zhuhai and Foshan located on the west coast of the Pearl River have had a prosperous private-owned economy. Only 5.8 per cent and 2.5 per cent of firms engaged in OBM in Shenzhen and Dongguan, the two cities nearest to Hong Kong.

Figure 3.7 Firms' production modes in the PRD area, 2005-2006.



Source: FHKI (2007).

Note: FHKI and the Economic Census Centre of Guangdong Statistics Bureau conducted a stratified random sampling based on the proportions of three types of FIEs in the nine cities, the total industrial output values of the nine cities in 2004, the proportion of Hong Kong funds to total FDI in each city, etc. They selected 10,000 firms, 3,000 of which were FIEs and overseas Chinese-funded firms, and 7,000 of which were domestic firms including SOEs, COEs, POEs, co-operative firms and share-holding firms.

3.2.2 Labour shortages and environmental issues

Guangdong, especially its core area—the PRD area, has achieved rapid industrialisation mainly by taking advantage of low labour costs and land resources during international industrial relocation over the past three decades (Sit and Yang, 1997, Zhang, 2005, Lin, 2009). However, as shown above, although Guangdong still takes the lead in China in terms of GDP, the gap between it and other provinces has narrowed, and it has even been overtaken by other provinces in some aspects. While external challenges initiated by other emerging regions have pushed Guangdong into intensive competition, the regional assets supporting Guangdong’s strategic coupling with the GPNs has clearly become insufficient. Labour shortages and rising costs are the most significant factors limiting further economic growth.

The great surplus labour shifted from the rural areas to the industrial sector³² has long been a key element in explaining Guangdong’s high economic growth rate. The seemingly unlimited cheap labour came first from local rural areas, and then from the less-developed regions of central and western China. However, reports of a migrant worker shortage in Guangdong began to appear on the internet and in newspapers from

³² The labour force from rural areas and works in urban areas of China without local household identity is generally called “migrant workers” or “peasant-workers (Nongmingong)”. This group of people is registered as rural residents under China’s household registration system (Hukou), which is based on maternal status rather than current domicile. There are two different social welfare systems for rural and urban residents. Normally, resources, including education and sanitation, are allocated to urban residents superior to those of rural residents.

2004. The labour shortage deteriorated further after the global financial crisis. During 2008 to 2009, at the height of the crisis, the sudden and sharp fall in exports resulted in massive downsizing and closures in manufacturing plants in the PRD area. Manufacturers had experienced an acute shortage of labour since early 2010, when overseas markets had gradually recovered. While displaced workers did not return to their original posts, export demands increased. It was estimated that in the prefectural city of Dongguan, a total of 600,000 workers were laid off between the end of 2008 and early 2009. In early 2010, the labour shortage in Dongguan was estimated to be around 200,000 workers (HKTDC, 2010).

The Federation of Hong Kong Industries (FHKI) (2010) claims that many Hong Kong firms owners believed that the labour shortage could become permanent, though it was also viewed as a lag that would take time to attract workers back into the region after the economic downturn saw many jobs lost. A series of surveys conducted by the Hong Kong Trade Development Council (HKTDC) and FHKI contested the view that the labour shortage has increasingly become a serious problem faced by most Hong Kong firms in the PRD area. In 2008 when the global financial crisis was most severe, HKTDC (2008)³³ reports that 95.9 per cent of responding firms encountered the issue of inadequate labour supply, next to rising wages, appreciation of the currency and implementation of China's new Labour Contract Law. The survey of FHKI (2012)³⁴ find that 74 per cent of responding firms encountered the problem of labour shortages. The shortage of unskilled and skilled workers were both 15 per cent. FHKI survey (2013)³⁵ points out that 80 per

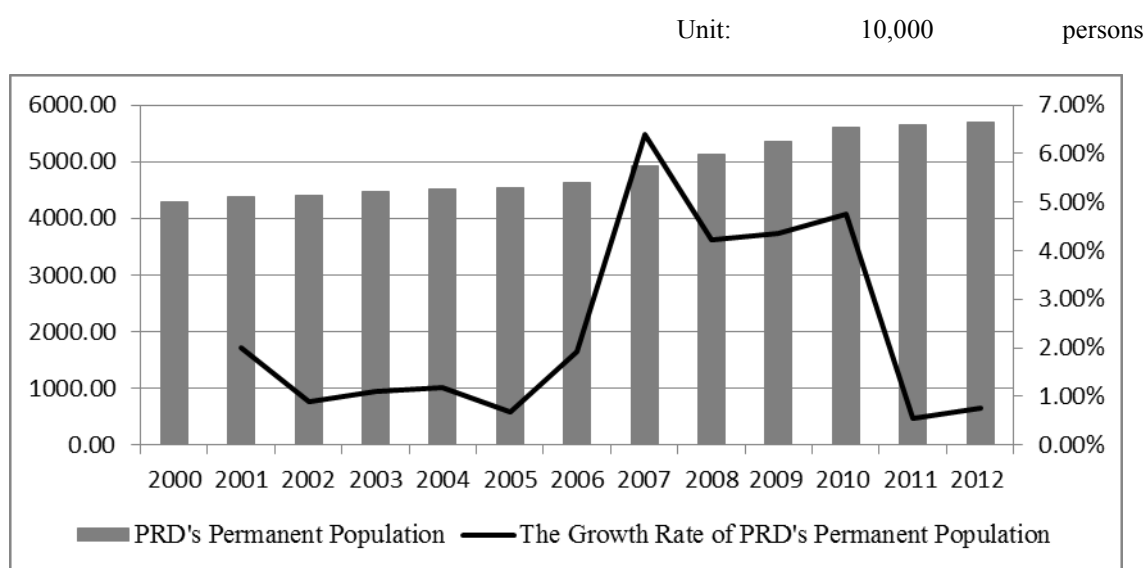
³³ The survey was conducted by the HKTDC research department in March and April of 2008. A total of 1,841 Hong Kong manufacturers and traders with production activities validly responded to the survey (HKTDC, 2008).

³⁴ The survey was conducted by FHKI in May of 2012. A total of 86 valid responses were received. The plants of these responding firms were located in 10 cities, including Dongguan (26 per cent), Shenzhen (21 per cent), Jiangmen (13 per cent) and Zhuhai (12 per cent). Most of the firms engaged in electronic products (14 per cent), fabricated metal products (13 per cent) and textiles and garments (9 per cent). 60 per cent of these firms were run as foreign-owned enterprises in Guangdong, and 12 per cent were processing and compensation trades. 37 per cent of these firms employed 1,000 persons or more (FHKI, 2012).

³⁵ The survey was conducted by FHKI in March and April of 2013. A total of 109 valid responses were received. The

cent of responding firms said their mainland factories were short of labour. The shortage of unskilled labour was about 14 per cent on average, with skilled workers lacking about 12 per cent. FHKI survey (2014)³⁶ continues to find that 80 per cent of responding firms indicated that their factories were short of labour. The shortage of unskilled workers was about 12 per cent on average, and skilled workers about 10 per cent. The latest report of FHKI (2015)³⁷ conducts an overview of Hong Kong manufacturers after the global financial crisis. It states that over 70 per cent of the responding firms noted they have experienced a worsening labour shortage since 2008, while some respondents say the new labour contract law in China has raised the frequency of labour disputes.

Figure 3.8 The change of permanent population in the PRD area, 2000-2012



plants of these responding firms were located in 10 cities, including Dongguan (26 per cent), Shenzhen (18 per cent), Huizhou (nine per cent), and Jiangmen (nine per cent). Most of these firms engaged in electrical and optical manufacturing (11 per cent), electronic manufacturing (11 per cent), textiles and garments (10 per cent). 66 per cent of the firms were run as general foreign-owned enterprises, 13 per cent of them operated processing and compensatory trades. About 70 per cent of the plants employed less than 1,000 persons (FHKI, 2013).

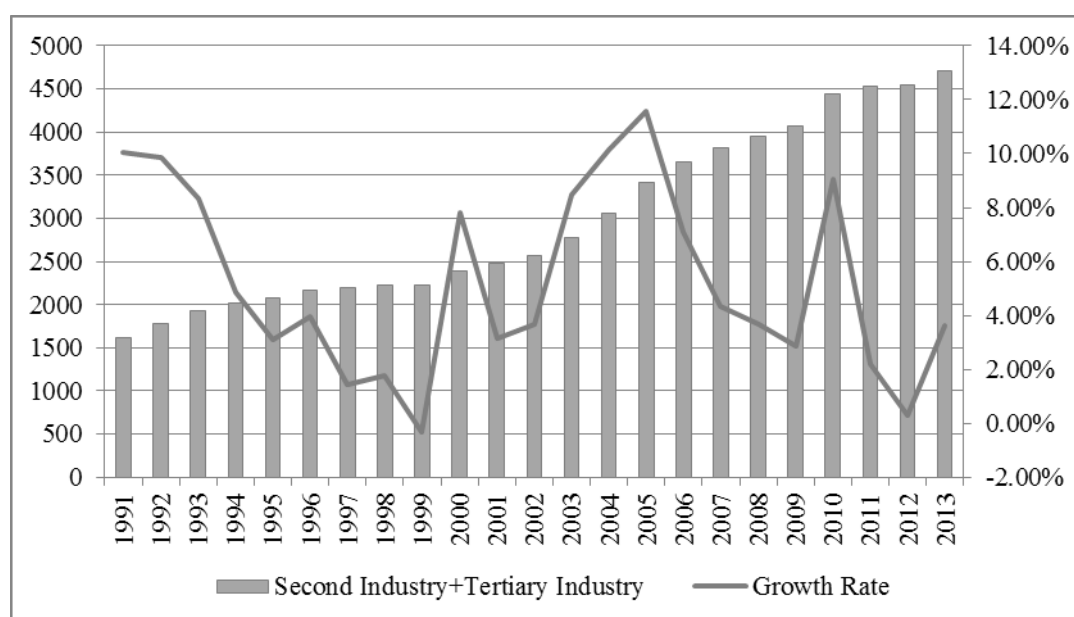
³⁶ The survey was conducted by FHKI from 5 March to 4 April 2014. A total of 164 valid responses of FHKI members in the manufacturing sector were received. The factories of responding firms were located in 11 cities in Guangdong. Most of the factories were in Dongguan (25 per cent), Shenzhen (21 per cent), Zhuhai (13 per cent), Huizhou (10 per cent) and Guangzhou (10 per cent). Most of the firms engaged in fabricated metal products (14 per cent), textiles and garments (14 per cent), electrical and optical products (11 per cent), electronic products (11 per cent) and toys and games (9 per cent). 78 per cent of those firms were operated as foreign-owned enterprises in Guangdong, and 13 per cent were in processing and compensation trades. About 70 per cent of the firms employed less than 1,000 persons, while 24 per cent employed 1,000 persons or more (FHKI, 2014).

³⁷ The survey was carried in Hong Kong and Dongguan between March and December 2014. 641 Hong Kong-funded enterprises responded validly to the survey (FHKI, 2015).

Source: Compiled by author from *Guangdong Statistical Yearbook*, various years.

Figure 3.8 shows the slowing down in growth rates of the permanent population³⁸ of the PRD area. It reached 0.54 per cent in 2011, a historical low in the three most recent decades. Due to a strictly controlled urban household registration system and stable urban population growth³⁹, it is clear that the decrease has been caused mainly by the immigrant population. Similarly, the labour employment of the secondary and tertiary industries of Guangdong province in figure 3.9 also shows a low growth rate of 0.31 per cent in 2012.

Figure 3.9 Employment in Secondary and Tertiary Industries of Guangdong Province, 1991-2013



Source: Compiled by author from *Guangdong Statistical Yearbook*, various years.

The migrant labour shortage has been prevalent in coastal developed regions in recent years. According to the *Research Report into Rural Migrant Workers* published by NBS

³⁸ The permanent population of a region includes registered residents (without the registered residents who have left the region for half a year or more), and non-registered residents who have left their original regions where they were registered for half a year or more. China's sixth nationwide census took place in 2010 was expanded for the first time to include foreigners (residents of Hong Kong, Macau, Taiwan and other foreign countries) who were living in China.

³⁹ Rural population is rigidly restricted to join the urban household registration system. Moreover, the one-child policy has been carried out much stricter in urban areas than in rural areas. The latter reason will be specified later.

(2013b), the proportion of migrant workers working in the PRD area and the YRD area has decreased while the proportion in the central and western regions has increased, precisely the location of the hometowns of most migrant workers. At the same time, more than half of migrant workers are working in their home provinces most of which are the inland provinces, and the inter-provincial flow has continued to decline (NBS, 2013b). This is because the Chinese government has been encouraging manufacturers to move factories to poorer inland regions. In doing so it has created job opportunities; at the same time, growing numbers of migrant workers do not consider it worthwhile to migrate far from their villages and work in large cities without solid social security, drying up the previous vast pool of labour in those giant manufacturing centres.

It is likely that labour shortages are a result of China's socioeconomic development. There are many more options for young Chinese workers nowadays than there were 20 years ago when manufacturing in the PRD area was the only option for many to get out of poverty in the interior of China. The managers from Hong Kong and Taiwan firms interviewed⁴⁰ for this research claimed that the availability of young female workers, who many assembly manufacturing industries prefer to employ, has decreased. They explained that young women now have better educational and other opportunities to engage in professional occupations with higher statuses and wages (fieldwork in Dongguan, August 2013).

The labour shortage may become more serious in the future. The total fertility rate (TFR) in 2000 was around 1.5, and in a range of between 1.33 and 1.44 during the period of 2001 to 2005 (Retherford et al., 2005, Jones, 2011), well below the replacement level of about

⁴⁰ A, a Hong Kong investor in Dongguan, Representative of Dongguan City Association of Enterprises with Foreign Investment (DGAEFI), Dongguan, August, 2013; B, a Taiwanese investor in Dongguan, Representative of Dongguan Taiwanese Businessmen Association, Dongguan, August, 2013.

2.1 that would hold a steady population⁴¹. Based on their decomposition analysis, Retherford et al. (2005) argue that fertility has declined sharply within all investigated categories of urban/rural residence, education, ethnicity, and migration status over time. It indicates that major fluctuations in fertility since 1979 have been clearly linked to fluctuations in enforcement of the one-child policy⁴². Additionally, Jones et al. (2009) suggest that there are many factors working against childbearing in China nowadays, particularly in urban areas. They include the increasing financial costs of childrearing, conflicting work and family responsibilities, compounded by family-unfriendly workplaces, a lack of strong government policies to support childrearing, rising individualism etc.

In this situation, the competition that the PRD area has faced has been much more pronounced. It is not only competing with the YRD area, the Beijing-Tianjin area, and other parts of China for the resource of foreign investment and favourable national policy, but also migrant workers. In order to ease its labour shortages and boost domestic consumption, Guangdong has repeatedly raised its minimum wage over the past decade, despite slower economic growth in recent years. In 2014, the monthly minimum wage for full-time workers in Shenzhen rose by 13 per cent to 1,808 *yuan*, which was the second highest wage next to Shanghai's (1,820 *yuan*) (China Briefing, 2014). The minimum wages in Guangzhou, Dongguan and Foshan were 1,550 *yuan*, 1,310 *y*. As HKTDC (2010) stated that social security contributions by employers also increased

⁴¹ In developed countries, the replacement fertility is normally presented an average of 2.1 births per woman to maintain a steady population; the replacement fertility in developing countries is somewhat higher.

⁴² One-child policy is the family planning policy carried out by the CCP to control the explosive population since late 1970s. This policy is written into the Constitution as an essential state strategy. According to the policy, most urban couples are allowed to have one child (if both parents are only children, they are allowed to have two children), while rural couples can have two. It is estimated that it has achieved of 400 million fewer births during the past 30 years, which is more than the total population of the US. In 2012, China has about 12 births per thousand people, a significant drop of 33 per thousand in 1970 (Xinhuanet, 2013). However, the policy has evoked much controversy, such as forced abortions and hefty fines for families. In recent years, as the birth rate declines, the call for loosening the policy has become more intense. At the end of 2013, the Standing Committee of the National People's Congress approved the official amendment of the one-child policy, permitting couples have a second child if one of the parents is an only child.

concomitantly with the rise in wages. Taking the city of Dongguan where a large number of Hong Kong manufacturers agglomerated, the total social security contribution by employers roughly equals 18 per cent of the wages paid. This ratio may be higher in cities with higher old-age insurance contribution rates. Wages constitute different shares of the cost structure among different industries. In the case of garments manufacturing, wage expenditure accounts for roughly 20 to 30 per cent of the total production cost. According to HKTDC's 2010 survey, there was an average 17 per cent increase in wages in the first six months of 2010. Hence, there was about a four to six per cent rise led by a wage and social security increase in the total production cost of garments manufacturing, if other things remain unchanged.

HKTDC (2008) suggested that rising wages, appreciation of the Renminbi and implementation of a new labour contract law had pushed up production costs, in responses to Hong Kong firms in the PRD area, by between eight to 15 percent during 2007. Over 60 per cent of Hong Kong firms had seen their profit margins decline by one to 10 percentage points during the period of 2005-2008, with some reporting no profit in their production. Later, in series survey reports produced by FHKI (2012, 2013, 2014), the year-on-year rise of labour costs were 15 per cent, 12 per cent and 12 per cent respectively. FHKI (2015) noted that 96.6 per cent of the responding firms had paid higher labour costs since 2008, and over one-third of them had experienced a 21 per cent to 40 per cent increase. Besides this, many Hong Kong investors were used to purchasing the land for building their plant factories at the early stage of their settlement in the PRD area. Local governments have also offered favourable treatments on land utilisation as one of their key preferential benefits to attract investment. Therefore the cost of land has not risen as dramatically as the cost of labour.

HKTDC (2010) claimed that the increase in minimum wages has reinforced workers' expectations of further wage hikes. This has exerted pressure on manufacturers to raise wage levels in order to maintain a stable workforce and has created new difficulties in human resources management. From the perspective of labour unions, non-government organizations (NGOs) and scholars, the new generation of migrant workers⁴³ have increasingly challenged their employers about working conditions, requiring not only wages rises, but wages that are paid in full and on time, reduced working hours and improving working conditions, and the expectation of "decent work" that provides them with "self-fulfilment and self-esteem" (Chan and Pun, 2009, Hannan, 2009, Pun et al., 2010, CLB, 2012, 2014a). Based on a national study by the Ministry of Labour and Social Security, there were 314,000 labour disputes involving 744,000 labourers registered for labour arbitration in 2005. This number of labour disputes in 2005 was 2.3 times and 9.5 times greater than those of 2000 and 1995, respectively (Shen, 2007). The increasing number of disputes had been instigated by the closure, merger or relocation of factories, especially in Guangdong as the global economic slowdown affected China's manufacturing industries. The Hong Kong-based China labour Bulletin recorded 235 labour incidents during the second quarter of 2014, 49 per cent higher than the same period in 2013, when 158 labour incidents occurred, and 180 per cent higher than the second quarter of 2012, when 84 incidents occurred (CLB, 2014). According to another survey of the Chinese workers' movement in 2000-2010, more than 70 per cent of targeted worker protests (553 collective disputes in mainland China) took place in the manufacturing sector during every year in the period except 2006 (CLB, 2012). To a large

⁴³ The issue of the new generation of migrant workers was mentioned for the first time in CCP and government documents in 2009 (The Central Committee of the CCP and the State Council, 2010), a year when, according to the national bureau of statistics the proportion of migrant workers born in or after 1980 already exceeded 60 percent (NBS, 2010). Those born and raised in the reform period are relatively better educated and materially better off. They have higher expectations and aspirations, and a singular lack of interest in rural living (Pun and Lu, 2010, New Generation Migrant Workers Research Group, 2011). Unlike their parents who may have responded to rights violations by cutting their losses and looking for another job or even returning to their villages, the new generation is far more likely to stay and fight for their legal rights and for a better life in the cities.

extent, the concentration of disputes in the manufacturing sector is explained by the fact that much of China's manufacturing factories are export oriented, relying on a high volume of less-skilled labour. Due to extremely lax enforcement of labour laws and regulations, no effective trade union representation and no channels of communication with management, workers were left with no option but to stage protests when their rights were violated.

The continuous occurrence of labour shortages, and the pervasiveness and intensification of labour unrest are very likely to be a turning point in China's labour relationship and economic development mode. Indeed, a number of scholars claim that China is either close to, or has already reached, the Lewis turning point, signifying that its pool of cheap labour has been finally exhausted (Cai and Wang, 2010, Huang and Jiang, 2010, Zhang et al., 2011, Kwan, 2012). Once the economy has surpassed the Lewis turning point, the industrial sector will need to raise wages in order to secure workers, or the labour-intensive industries transfers to other regions or countries with cheap labour. The acceleration of real wages even in down seasons in the PRD area indicates the era of surplus labour is over. It sends a strong signal that the area should make a significant revision to its labour intensive and low technology economy, by for example developing technology-intensive industries, and making increasing investments in R&D and education.

Additionally, Guangdong's export-oriented economy largely comes at the expense of cheap labour costs, intensive energy consumption and substantial environmental deterioration. For example, Foshan, Guangzhou and Dongguan have the most notable air quality problems of the province. In 2012, over 80 per cent of the cities in Guangdong had acid rain problems, and Foshan, Shenzhen city and Shunde district, located in the PRD

area, are considered to be severely polluted by acid rain (Department of Environmental Protection of Guangdong Province, 2013). Excluding the rapid increase of labour costs, exporters are suffering the cost burden of surging energy prices, higher inflation, and increased pressure of RMB appreciation (HKTDC, 2010; FHKI, 2012, 2013, 2014, and 2015). All this implies that it is necessary for the PRD area to construct new regional assets, to couple with the dynamic demands of GPNS.

3.3 The industrial agglomeration of the PRD area—specialised township

Although the PRD area has a favourable location, substantial commercial tradition and close overseas connection, its industrial development was limited to the highly-centralized planned economy during the period of 1949-1978. Most of the PRD area was a traditional agriculture-dominated area far from the centre of the country. It had neither abundant natural resources nor solid industrial foundations nor a large number of privileged SOEs. After 1978, its rapid industrialisation and urbanisation was attributable not only to it being a pioneer in reform, but also because of its foreign capital-oriented model, known as the “Pearl River Model”, which contrasts with the self-funded “South Jiangsu Model” and “Wenzhou Model” in Jiangsu province and Zhejiang province respectively⁴⁴.

⁴⁴ Both Jiangsu province and Zhejiang province (where Wenzhou city is located) are situated in the YRD area. The YRD area and the PRD area were China’s most developed areas during pre-1949 period, but suffered as a consequence of inwardly looking national development policies and dwindling investment since the 1950s, particularly the Third Front programme of defence industrialization which began in 1964 and continued until the end of the 1970s (Bramall, 2008). The “Pearl River Model”, “South Jiangsu Model” and “Wenzhou Model” all began from rural industrialization under reform and marketization, yet with different features in path dependency and institutional innovation. Southern Jiangsu has a solid industrial base and long tradition of commerce. It constitutes diversified industrial agglomerations, which range from traditional labour-intensive textiles and garments, appliances to capital-intensive electronic equipment, pharmaceuticals and aircraft. Furthermore, local governments and collectives have played principle roles in its development until now. In recent decades the province has vigorously promoted the introduction of foreign firms, and the government-driven industrial parks have introduced greater numbers of FDI than Guangdong. The Wenzhou model is a completely bottom-up process initiated by individual households. The role of local governments has been quite limited relative to the case of Jiangsu. It has developed

One of the most significant characters of the “Pearl River Model” has been its “specialised township economy”, namely, towns that have resembled the features of industrial agglomeration and by a high share of them concentrated within localised industry (Bellandi and Tommaso, 2005). Most of the specialised towns are the localities, which were rural areas or villages in the pre-reform era, as well as some small cities and suburbs of big metropolises. In the specialised towns, there are a great number of firms both with local and external ownership, mainly foreign and private, sometimes led by restructured SOEs or TVEs. Normally they engage in the production of a limited range of products called “*yi zhen yi pin* (one town one product)”. It is a statistical fact that Guangdong had 399 recognised specialised towns⁴⁵ by the end of 2015. The total GDP of these towns achieved 2.77 trillion *yuan* in the same year, accounted for 38 per cent of the provincial economy⁴⁶. According to the *Innovation Index of Guangdong Specialised Towns*, the top ten industrial specialised towns were located in the cities of Foshan, Zhongshan and Dongguan, all of which are in the PRD area⁴⁷.

from family workshops and specialised markets, and focuses on the production of small commodities, which are low-technology and low cost. In the early years of the opening, the PRD area carried out an export-oriented development strategy that utilizes national preferential policies and a unique geographic location. Local governments and overseas Chinese investors with kinship links in the area were the major promoters. Yet local governments has phased out the direct operation of firms since the mid-1990s; Hong Kong investors are not welcome as much as before since their factories which had been thought of as low value added sweatshops have not followed the upgrading strategy of the province. Overall, relating the three models to a few significant features risks over generalisation. Considerable similarities and differences among the development models remain to be investigated. For example, without proximity to Hong Kong, the development of the west coast of the PRD area has tended to rely more on family-owned business and domestic markets. A detailed analysis will be presented later.

⁴⁵ The term ‘specialized township’ is officially designated by a programme promoted by Guangdong Provincial Department of Science and Technology. The programme has been initiated since 2000 and is aimed at supporting innovation and technological development for specialised townships. In order to receive the official recognition the towns have to satisfy a number of requirements, in particular: that at least 30 per cent of manufacturing output is produced by one specific industry; and that the annual industrial output value has to be more than 2 billion yuan (in the cases of agricultural specialised towns, output was required to be 1 billion yuan or above) (Guangdong Provincial Department of Science and Technology, 2008).

⁴⁶ Guangdong Association for the Promotion of Specialised Township Development (June 14, 2016). Guangdong released the innovation index. Accessed July 1st, 2016. http://www.potic.org.cn/client/news/news_view.jsp?rowId=649&newsCate=C.

⁴⁷ The Innovation Index of Guangdong Specialised Towns was made by Guangdong Academy of Social Sciences and Guangdong Association for the Promotion of Specialised Township Development in 2016. The assessment criterion was mainly based on their innovation infrastructure, capacities of scientific research and technology commercialisation. Accessed July 1st, 2016. http://www.potic.org.cn/client/ranking/ranking_index.jsp.

3.3.1 The early development of the specialised township—TVEs and the role of the governments

Under the Maoist economic and social system, the entire development strategy was predicated on the state's ability to mobilize resources for industrial investment. Policies were adopted in favour of the growth of urban areas, where most state-owned firms (SOEs) were established, at the expense of rural welfare. Agricultural collectives were the dominant rural institution for procuring a steady supply of agricultural produce at a relatively low price, which subsequently maintained low price levels for living necessities and raw materials for urban development. Under distorted policy and management, peasants received little in exchange for mandatory grain sales, and showed no enthusiasm for investing more time and money in agriculture (Lin et al., 2003, Naughton, 2007). The whole economy was also inefficient and almost stagnant. A World Bank study shows that, even calculated at the most favourable assumptions, the growth rate of China's total factor productivity was merely 0.5 percent between 1952 and 1981, and only a quarter of the average growth rate of 19 developing countries included in the study (World Bank, 1985).

Against this backdrop, town- and village-owned firms (TVEs) sprang up. Most TVEs inherited a base of commune and brigade firms dating from the Great Leap Forward of 1958 to 1961, which served to promote rural industrialization. In the 1950s, agricultural cooperatives and communes were set up sideline production workshops, like cooking oil expression, handicrafts, agricultural implement production. In the 1960s, more workshops and plants were established for further industrialisation, such as machinery plants, papermaking factories, and sewing workshops. Most of these workshops and plants were manual operations with limited techniques, though they laid a foundation for

the future development of TVEs. All rural communes of the PRD area had established their own firms by 1976. Some rural communes and brigades cooperated with industrial and commercial firms or government organisations of urban areas to set up processing plants (Lu, 2009). However, the development of rural firms were still constrained by a centralised planned economy. The rural economy of the PRD area maintained a slow growth and agricultural domination.

After the decade-long catastrophe of the Cultural Revolution (1966-1976), the Third Plenum of the 11th Central Committee of the CCP in December 1978 made adjustments to rural policy that touched off major changes in rural society, including an across-the-board increase in agricultural procurement prices and a reaffirmation of the right to the self-management of collectives (Naughton, 2007). Subsequently, inspired by the household-responsibility system⁴⁸, raised from grassroots rural areas, the central state redistributed the rights and obligations of local governments. It converted a vertical apportionment system that had allocated revenues from the upper to the lower levels into a system in which localities had to rely primarily on horizontal flows—that is, on income that they generated themselves. However, local governments were granted the rights to any economic surplus that they were able to generate (Oi, 1999).

The reform generated an enthusiastic response in Guangdong province. The rural reform introduced by the central government, including the household-responsibility system,

⁴⁸ In traditional Maoist organization of rural people's communes, farmers were managed and allocated specific production tasks by production brigades. The household-responsibility system, which was launched in the early 1980s allowed households to contract land, machinery and other facilities from collective organizations. The aim was to preserve basic unified management of the collective economy, while contracting out land and other goods to households. Households could make operating decisions independently within the limits set by the contract agreement. Furthermore, the central government drastically reduced production quotas for the farmers, and they could freely dispose of surplus production over and above national and collective quotas. This system which stimulated farmers' initiative became an instant success, dramatically increasing rural income and improving rural standard-of-living in a short time. This practice later extended to other sectors of the economy, by which local managers are held responsible for the profits and losses of an firm. This system partially supplanted the egalitarian distribution method, whereby the state assumed all profits and losses.

drastic reduction of the state monopolised purchasing quotas of agricultural products and opening farmers' free markets, greatly promoted the commercialization of agricultural products. Since the reform gave farmers autonomy of agricultural production, it released a large amount of rural labour, which was able to offer labour for industrialisation. Due to population mobility still being under the strictly-controlled household registration system (*hukou* system), the greater part of surplus rural labour shifted to rural factories rather than urban areas. This so-called “*litu bu lixiang* (departing farming without leaving [one's] native land)” was one of the characteristics of China's economy during the rural industrialisation in the early 1980s. Besides, as a reform pioneer, Guangdong provincial government was granted more power, and subsequently delegated decision-making power for resource allocation and economic planning to lower levels, such as to elementary town-level governments. Local governments consequently had more initiatives and flexibility in dealing with local economic issues. In order to seek more profits and tax revenues, local governments participated directly in the decision making of firms, including founding firms independently or searching partnerships with outside investors, offering fiscal support, giving direct instruction and appointing management.

During the process of decentralisation and industrialisation, the rapid rise of commune and brigade firms became the most dynamic part of China's economy in the 1980s and early 1990s when they were allowed to mobilise and realise the value of natural resources and income deposits through manufacturing (Huang, 2008). At the same CCP Plenum in 1978, the top leadership asked for a “big” improvement in the commune and brigade firms. In order to increase the income of the firms, the central government granted them tax-free or low-tax policies according to the differences of firms in different regions. In July of 1979, the state council released the Rules of Developing the Commune and Brigade Firms (draft), specifying details about encouragement policies. The central

guides had lifted up the vitality of rural enterprises of the PRD area. A large quantity of rural enterprises that were forced to shut down during the Cultural Revolution consequently resumed their operations and production. Guangdong provincial government and the municipal and county governments set up administrative institutions tailored to support the commune and brigade firms, organising them to develop business and distribution channels. In March of 1980, the provincial government announced additional favourable treatment to facilitate the development of rural enterprises. It allowed surplus products beyond the plan produced by the commune and brigade firms to be sold in the province without official permission. This directed rural enterprises to change their internal production and sales systems so that they were oriented towards production on a much larger scale. Supportive industries, including construction, transportation, commercial, and catering services etc., had developed accordingly.

TVEs were first officially renamed and defined by the central government in March of 1984. Four types of ownership structures were included as TVEs in the official report, *The beginning of a New Stage of Commune and Brigade Firms*, which was also known as the No.4 government report: county and township (formerly communes) run firms; village (formerly brigades) run firms; farmers' cooperatives; and individual or family run businesses. According to the report, TVEs enjoyed greater autonomy than SOEs. Their finances, supplies, sales, production, and personnel were not subject to state planning. However, they were intimately linked with local governments. As the owner of a majority of TVEs, local governments (namely, county and township governments) had been responsible for providing critical inputs, such as land, loans, and offering political support to TVEs. The output value of TVEs increased from 49.3 to 4,258.9 billion yuan over the period from 1978 to 1994. In line with this rapid expansion in output, TVE numbers also increased substantially from 1.52 million in 1978 to 24.95 million by 1994 (NBS, 1996).

Taken advantage of close relationships with overseas Chinese, an increasing number of TVEs in the PRD area had engaged in export-oriented processing trade⁴⁹, adopting an innovative production form of “*sanlai yibu* (three-processing and one compensation)⁵⁰” since the end of 1970s. The timing of the PRD area’s pursuit of industrialisation was a crucial factor. This period coincided with the onset of a phase of accelerated globalisation that came with an enhanced demand for manufactured goods. Export trade and production had greatly promoted the rapid industrialisation of the PRD area from a low base, with an infusion of capital, technology, market information and management skills from overseas Chinese, especially Hong Kong in the 1980s and then Taiwan in the 1990s. This new activity was greatly propagated by Guangdong provincial government. It called for all rural communes and brigades to establish their own firms, and proposed prioritising the development of processing trade and labour intensive production.

The PRD area was designated as an economic open zone by the central government in February of 1985. It, and two other open zones, were required to develop processing industries and produce agricultural and other raw materials according to the demands of the export trade. Guangdong provincial government furthered reform and opening up by establishing essential industrial satellite towns around large- and medium-sized cities. All of the towns located in the PRD economic open zone have relatively developed rural

⁴⁹ Processing trade refers to the business activity of importing all or part of the raw and auxiliary materials, parts and components, accessories, and packaging materials from abroad in bond, and re-exporting the finished products after processing or assembly by firms within Mainland China. It includes processing with supplied materials and processing with imported materials. Under processing with supplied materials, the imported materials and parts are supplied by the foreign party, which is also responsible for selling finished products. The business firm does not have to make foreign exchange payments for imports and only charges a foreign party a processing fee. Under processing with imported materials, the business firm makes foreign exchange payments for imported materials and parts and exports the finished products after processing (HKTDC, 2012).

⁵⁰ The term “three-processing and one compensation” refers to the raw materials, samples and parts that are supplied by foreign clients. The mainland factories process and assemble the materials according to the demands of foreign clients. All finished products are exported and organized for sale by the foreign side, and the mainland side is paid with a processing fee. The compensation trade means the required manufacturing equipment and technology are provided by foreign clients. An agreed proportion of the processing fee will be refunded to clients in instalments as payment for machines. After paying off money, the machines can be totally owned by the mainland factory.

industries and transport infrastructure. They had the capacity to offer supporting facilities and products and processing industries for the production of metropolises, and to develop export industries as well. These towns enjoyed more autonomy and favourable treatment in terms of finance, taxation and export trade. For example, the enterprises of the satellite towns were first to be granted exemption from customs duty for importing machinery equipment. Until the end of 1985, there were 118 satellite towns in the PRD economic open zone, accounting for 60 per cent of total towns of the zone (Lu, 2009). Under the vigorous support of the governments, TVEs sprang up around the PRD area, as it upgraded into an emerging industrial powerhouse and an urbanised area.

Compared with the supporting roles of the central, provincial and prefectural governments, local governments⁵¹, or “local state corporatism”, as defined by Oi (1999)⁵², played a role as a direct participant in the development of TVEs. Guangdong’s local cadres who constituted the leadership of the township-level or below are normally promoted from among local elites. They flexibly carried out reforms and opening up policy issued by the central government; part of this has derived from a “traffic light principle”, which describes their local strategy regarding the central policy: “Go quickly when the green light is on (*yudao lüdeng qiangzhe zou*), proceed immediately when the red light turns yellow (*yudao huangdeng chuangzhe zou*), find a bypass route to proceed when the red light is on (*yudao hongdeng raodao zou*).” Because of their close ties with

⁵¹ The term of “local government” hereafter refers to town-level government or below, unless otherwise specified.

⁵² Grounded in the pioneering research of Oi (1999), the village, township, and county make up the local corporate state directly responsible for the dramatic growth of rural enterprises in China. She elaborates that each level is in itself a corporate entity, yet is intimately connected. Control within the local corporate state involves constraints and inducements applied to each level of local government and to firms within each level. The distribution of resources followed the hierarchical nature of the state bureaucracy, and the availability of resource increases with the level of the bureaucracy. Although each level had its own resources and strives to be self-sufficient, it could appeal to the next higher level for assistance and intervention. Hence, Oi claims, the rapid development of rural industry stems from the input of all three levels. Township government, as an official unit, guided and promoted the direction of growth in the township and overseas development in its villages (without formal bureaucratic systems). The financial wealth of a township depended on the amount of rural industry, which included tax revenues from both township- and village-owned firms, and substantial extra budgetary revenues from township-owned firms. The township party secretary and the township head had overall control of development, and further, they were more likely to participate in micro-level decisions affecting their firms.

local communities and overseas compatriots, Guangdong's local cadres have had more information resources and knowledge about the market than their counterparts in inland provinces. Their intensive involvement has been considered a unique advantage to enable subordinate enterprises to bypass or overcome many pre-existing barriers. In many cases, those local cadres and their families even became the first generation of entrepreneurs and led fellow towns and villages to start businesses. The *Midea* group, headquartered in Shunde town of Foshan, started life as a bottle-manufacturing workshop set up by the production brigade leader, He Xiangjian and his teammates. *Midea* turned to electric fans and air conditioners in the 1980s, and now *Midea* has become one of China's largest electronics and household appliances manufacturers.

A large body of literature recognizes that TVEs contributed the most to China's impressive economic growth during the 1980s (Naughton, 1994, Li, 1996, Huang, 2008). Some suggest that local government ownership was a second-best arrangement in the absence of institutions to limit rent-seeking activities of the local government itself and state predation (Che and Qian, 1998a, b, Tian, 2000, Che, 2002). Naughton (1994) argues that TVEs were an effective response to a distinctive feature of the Chinese transition process that saw the early development of product markets, without well-developed markets for factors of production and assets. He therefore argues that TVEs might not represent an enduring organizational form. As underlying economic conditions change, TVEs were required to evolve into firms capable of being competitive within the context of China's increasingly market-oriented economy. They felt the necessity for further advances in terms of clarification of property rights, expanding access to finance, enhancing the human capital of their employees and managers, and improving the efficiency of production, distribution and marketing systems. Indeed, it has been observed that as TVEs matured, the objectives of local governments increasingly clashed

with TVEs (Byrd and Lin, 1990). Governments are not purely economic actors, and because they have had to pursue multiple social, political and economic objectives, growing conflicts have arisen regarding the efficiency of TVEs. In the course of such conflicts, powerful control of local governments have led towards tendency of rent-seeking and bureaucratisation of local governments over TVEs, which usually interfered with efficient decision-making in firms, and further hindered their long-term development (Jin and Qian, 1998, Kung and Lin, 2007). Furthermore, although TVEs have had much harder budget constraints than SOEs, they have received much softer constraints than POEs, which have been likely to see non-performing loans for banks and local governments accumulate.

The 1990s differed markedly from the 1980s: a previously laissez-faire policy was discontinued by the central government, which perceived local governments as being out of control and at risk of causing the economy to overheat. Central-local fiscal relations were reconstructed through tax-sharing reforms initiated since 1994. Unlike a pre-1994 revenue sharing arrangement whereby central government took a lump-sum amount from various taxes collected by each province, the new system gave the central government a large and fixed share (75 per cent) in value-added tax—the most important transaction tax, which also began to be collected directly by a new central tax bureau. Moreover, the new reforms imposed more constraints on local authorities to limit their various informal, off budget sources of revenue, which previously were important incentives for local officials to promote TVEs (Wang, 1997, Wong, 1997).

At the same time, the domestic over-demand market had transformed into one of over-supply. The continuous entry of an increasing number of TVEs, international joint ventures, and private firms intensified competition and eroded exceptional profits

available early on. The ratio of profits after taxes over assets for TVEs had steadily decreased from more than 30 per cent in the early 1980s to about 7.5 per cent in 1995 and 1996 (Sun, 2002). Most likely because of suffering a sharp decline, the number of TVEs in 1995 were almost three million less than in 1994 (NBS, 1996). In order to survive and keep growth alive in a competitive market, TVEs were pushed to depend increasingly on credit financing. Local governments also wanted to guarantee more loans to TVEs for the sake of pursuing sustained rapid economic growth to cater to their political and social targets. All these made the likelihood of inducing TVEs' heavy reliance on debt financing and softening budgets greater, and increased unlimited liability for local governments. Shunde town of Foshan, well known for its successful TVEs in the 1980s, encountered the rapid build-up of debt created by TVEs in early 1990s. Non-performing loans created by town-owned firms accounted for 17.2 per cent of total loans, amounting to 216.63 million *yuan* at the end of 1990; the percentage then continued to grow to 35 per cent, amounting to 969.50 million *yuan* at the end of March 1993 (Xu, 2002).

All of the potential risk and practical debt added up to bring about a radical restructuring in ownership and governance arrangements initiated by the central government and local governments for both TVEs and SOEs. The clearest examples have been the strategy of "SOEs (including TVEs since most TVE owners are local governments) withdraw and POEs enter" and "retaining large firms while releasing small ones". In the PRD area, most TVEs were restructured into joint-stock cooperative or private ownership. In a typical restructured joint cooperative (formerly TVE) in the PRD area, the local government continued to be involved in its governance via the community assets management body and the Party branch. However, its role had been gradually transformed from the sole owner and supervisor of the TVE to one more similar to that of a major institutional shareholder. Local governments then finally withdrew from the

management of TVEs, mainly through selling their equity stake to private interests by the end of the 1990s. Ownership reforms were particularly dramatic in the Foshan area. Most TVEs in Shunde transformed into POEs or limited liabilities normally held by a few individuals. By the end of the 2000s, over 70 per cent of Shunde's GDP and 80 per cent of its tax revenues came from local PVEs (GDEI, 2012). More details of TVE ownership reforms will be discussed in the case of Shunde town and Foshan prefectural city in chapter five, focusing in particular on where reforms had a remarkable effect on their local economies.

As ownership reforms were completed, local governments began to develop their governance by creating enabling environments for business and social welfare systems, rather than day-to-day enterprise management. Since China's accession to the WTO in 2001, all local governments of the PRD area have made efforts to improve the investment climate by introducing infrastructure to facilitate FDI (such as setting up variety of industrial parks and zones), including on the west coast of the PRD area where domestic firms dominate. In recent years, particularly with the onset of the global financial crisis, Guangdong provincial government has urged industrial upgrading policies. Local governments have subsequently tweaked their plans to provide platforms for innovation and entrepreneurship, focusing on cooperation among universities, research institutes and firms, as well as establishing supportive mechanisms such as attracting science and technology talent, and the introduction of venture capital, etc.

3.3.2 Characteristics of the specialised townships

3.3.2.1 Origins of the specialised townships

The majority of TVEs in the PRD area have been labour-intensive manufacturers and processors. One intuitive reason for this is that they adapted to the demands of the export processing trade. Another historical reason is that Chinese government gave priority to capital-intensive heavy industry, particularly in urban areas during Mao's era, but it also held back the development of light industry. Reform and opening up stimulated consumer demand and offered an opportunity for rural areas to industrialise by developing labour intensive light industry. Besides this, TVEs, usually of a smaller size, less financial support and a lower-skilled labour force than SOEs have only been able to choose low-cost and less-sophisticated manufacturing.

The development of industrial agglomeration (specialised township) in the PRD area originated from different geographic and historical endowments. First, traditional industries were the basis for specialised townships. For example, the history of the ceramics industry in Shiwan town, Foshan, can be traced back thousands of years ago (the Neolithic Age). In the early 1980s, Shiwan introduced the first automatic production line of architectural ceramic and sanitary ware in order to cater to market demand. Since then, the area of Foshan quickly became China's largest distribution centre of architectural ceramic and sanitary ware. In 1999, the company *Eagle Brand Ceramics*, formerly a Shiwan TVE, made its initial public offering on the Singapore stock exchange marking it as one of the first overseas-listed TVEs.

Second, a sizeable industrial agglomeration benefited from local specialised markets, which usually result from transformed rural markets. This was particularly salient on the west coast of the PRD area with its dense commercial practices. In the early period of the reform era, with the development of the economy and consumer demand, those previous

agricultural goods markets were transformed to processed goods markets. Farmer households and collectives which had accumulated capital and experience by attending the market, started up workshops and plants to process specific industrial products. Gradually, the plants and their local suppliers, and the markets together had evolved into an integrated system that covered the parts of production, distribution and sales. For example, in Dali town, Foshan, there was a specialised aluminium profile market before it grew into a production base for aluminium profile. A well-known timber trading market once existed in Lecong town of Foshan, before it developed to be a national furniture manufacturing centre.

Third, rural governments and firms initiated industrialisation as it launched cooperation with Hong Kong, and then Taiwanese investors. The cities located on the east coast of the PRD area, such as Shenzhen and Dongguan, started their take off by introducing investment from Hong Kong and Taiwan. Both Shijie town and Qingxi town in Dongguan had become hubs of electronics since Taiwanese shifted their factories to mainland China in the 1990s. The west coast of the PRD area, which was more focused on local TWEs and household firms, also has close connections with foreign investment and overseas markets. For example, the development of a lingerie industry in Dali town, Foshan, originated in the Hong Kong-funded lingerie processing factory, *Top Form*, in 1979. Local households have followed to set up family workshops which produce lingerie and accessories since the middle 1980s, and which have incrementally replaced the dominance of Hong Kong firms. The town then progressively developed a cluster covering the manufacturing of ready-to-wear lingerie, to supplying lacework, bra mould cups, ribbons and trimmings, etc.

Based on the above origins, specific manufacturing industries were developed mainly in

units of towns in the PRD area. Once a few innovative start-ups (TVEs, local entrepreneurs or overseas Chinese investors) succeeded in their venture, the technology and business experience passed on to others quickly through informal communications, for example networks of relatives, friends and neighbours. Other brigades and households in the town followed to engage the same industry or offer supporting industries facilities. As the size of specialised manufacturing and market transactions increasingly expanded, industrial agglomerations, or “specialised townships” were formed. Some well-developed towns attracted out-of-town similar product manufacturers to settle down in towns, opening branch offices or factories for sharing information and resources. Beijiao town and Ronggui town in Shunde are well-known domestic household appliance manufacturing bases. They are the headquarters of dozens of famous domestic household appliance manufacturers, like *Midea* and *Galanz*, the largest rice cooker and microwave oven manufactures in the world. Besides this, considerable investment has also come from MNCs such as Toshiba, Sanyo, Panasonic, Bosch, and Whirlpool. According to the argument of clusters, the great density of industrial enterprises is good for communication and continuous innovation, and has finally promoted competitiveness in the region as a whole. Indeed, the annual industrial outputs of both towns reach over 100 billion *yuan* respectively, being two of the wealthiest towns in China.

3.3.2.2. The east and west coast of the PRD area

As shown above, noticeable differences exist among cities of the PRD area. In the same way, there are different characteristics between specialised townships though they are united as a “Pearl River Model”. Within the PRD area, the region where the East River flows through, a branch of the Pearl River, is called the east coast, including the cities of Shenzhen, Dongguan and Huizhou; the region where the other two branches of the Pearl

River flow through, the West River and North River, called the west coast, including the cities of Guangzhou, Foshan, Zhaoqing, Zhongshan, Zhuhai and Jiangmen.

Manufacturing industries along the east coast of the river are dominated by foreign investment. They are adjacent to Hong Kong, which offers the most efficient access overseas for importing raw materials and exporting products. As a result, the area, especially the city of Shenzhen and Dongguan have become the first choice of overseas Chinese to set up their first groups of factories in mainland China. Moreover, the underdeveloped state-owned economy there made it relatively open and flexible to explore its diversified economies and encourage the development of ownership by different firms.

Most factories invested in by foreign firms are located on the east coast and have close connections with overseas markets, even though domestic entrepreneurs have invested in some of them. For the sake of cheap labour and land, foreign capital entered the PRD area through setting up Chinese and foreign joint venture firms (JVEs) or Chinese and foreign cooperative venture firms (CVEs) with local firms in the 1980s. These firms mainly engaged in export-oriented processing trade production, adopting *three-processing and one compensation (sanlai yibu)*. The great promotion of technology and management from overseas investment elevated the agricultural resource-based, internally-oriented and closed rural economy of the east coast into a more open and dynamic economy. Shenzhen and Dongguan are the best examples, which leapfrogged from small rural villages to metropolitan cities with populations of millions in the period of a decade.

When compared with the east coast, the west coast is not endowed with an advantageous location directly facing Hong Kong. Its development depends more on local heritage or

historical happenstance. Dachong town in Zhongshan city, for example, is famous for its mahogany furniture production. This primarily came from the recycling of scrap wood from refurbishing irrigation projects at the end of the 1970s. Some villagers carved the wood into pieces of furniture which became popular in the market quickly. After that increasing numbers of local villagers and brigades went to work in the production of wooden furniture. Evolving from small plants and family workshops to mechanical and large scale productions, the value of furniture industrial output of Dachong town has exceeded more than 1 billion *yuan*, and was awarded the status of “specialised town for mahogany furniture production” by the National Light Industry Council and National Furniture Association in 2003. As mentioned above, the ceramics industry in Shiwan town of Foshan has a history stretching back more than one thousand years.

Without the huge boost of overseas investment, the township economic transformation on the west coast is relatively slow, and largely focuses on traditional and light industries, such as ceramic products, textiles and garments, furniture, household appliances, hardware products, and foodstuff. Since the TVEs do not have ready access to external markets and sophisticated technology, they develop for themselves all necessary production parts, choosing to sell in more accessible domestic markets. Consequently, the scale of industrial agglomeration production on the west coast is massive and integrated, normally covering manufacturing, sales and marketing, and even R&D.

Unlike Dongguan, which developed rapidly from an agriculture-oriented area to the world’s manufacturing centre in a period of 30 years, Foshan, the largest city on the west coast, has a thousand-year long tradition of handicraft and commerce. Its industrialisation and economic development are deeply embedded in local networks and communities. The majority of firms within its towns have a similar social background, or are connected

by bonds of kinship and clans. Close interpersonal ties have facilitated the free flow of information and communication, thereby reducing production transaction costs. Once a first mover achieved success in a specific business, other households followed to engage in the same industry because of the availability of experience and technology.

Differences between the east and west coast will be elaborated in the following three chapters in the cases of Dongguan and Foshan, which are the two cities with the most significant distinctions—foreign-investment dominated Dongguan and local-investment dominated Foshan.

3.4 The Case of Guangdong through the Lens of the GPN

In international industrial relocation, Guangdong has achieved its remarkable industrialisation through strategic coupling with the development of GPNs. Its distinctive regional assets include cheap and abundant labour and land resources, extensive relationships with overseas Chinese and the advantage of ‘first move’ in mainland China. All of these regional assets have promoted Guangdong’s articulation into GPNs as an export-oriented manufacturing powerhouse.

As an agriculture-dominated province before reform, Guangdong developed its industrialisation firstly in a vast rural area, taking advantage of the cheap and abundant labour and land resources. With connections to overseas Chinese investors who were the contractors of lead firms within GPNs, most industrialised areas in Guangdong province, including the PRD area, have developed the processing trade and OEM as subcontractors of lead firms. These impoverished rural areas ‘got rich quick’ by developing activities of

processing and assembly, and hence, most local revenues have derived from export-oriented industries rather than central government financing. Benefiting from the decentralisation of authority and finance after reform, the local state has been mainly controlled by grass-roots elites who have been able to take advantage of these opportunities. Thus, Guangdong has realised its economic take-off and benefited from an export-oriented and labour intensive development model.

Furthermore, bottom-up industrialisation in rural areas made the specialised township economy emerge and become one of Guangdong's core competences. Further industrialisation and specialisation promoted territorial and network embeddedness of TNCs, and boosted regional assets thus facilitating its coupling with strategic imperatives of lead firms in GPNs.

However, as Henderson notes, the structures and relationships within GPNs are not fixed forever (Henderson et al. 2002). Regional assets are therefore needed to maintain dynamic strategic coupling with the development of GPNs. As analysed above, rising labour shortages and production costs, intensive competition from other emerging regions and countries, have made Guangdong's regional actors less competitive and unique to GPNs. Moreover, the assessment of Guangdong's economic performance shows that the capability of Guangdong in terms of upgrading and value enhancement have had little advancement relative to total national levels. It illustrates that Guangdong has been a subcontractor based on its comparative advantage of low production costs over a long period, rather than a competitive strategic partner of lead firms of GPNs. The continuous labour shortage in the PRD area is very likely to be a critical juncture indicating areas needed to find new sources for sustainable regional assets.

The industrial development of Guangdong remains an example for developing countries to the present, but undoubtedly itself now needs something new to improve its productivity efficiency.

Chapter 4 The Industrial Development of Dongguan

Dongguan developed from an agricultural town to a world-famous processing manufacturing base because of its location and cheap labour and land cost. Its rise over the past three decades aroused a great deal of controversy. Section 4.1 reviews the general economic development and the changes of macropolicy of Dongguan from the beginning of the opening and reform period. Section 4.2 interprets the most significant feature of Dongguan's economy—the processing trade, in the aspects of the shift of dominant forces, its increasing participation of a global network, and the impact of China's policy shift on its development. An assessment of development characteristics of enterprises with different ownership is also introduced here to analyse their impact on Dongguan's development trajectory. Section 4.3 reviews the clusters in Dongguan, and specifically the electronics industry which has been Dongguan's leading industry of the last ten years. Taiwanese firms' driving role in this industry is discussed as well. More details are elaborated in the case of the specialised town of Shijie. Local institutions and path dependency which are deeply influenced by export-oriented production model are discussed in the section 4.4. Finally, section 4.5 reviews and summarises the whole chapter in the perspective of GPNs.

4.1 The general economic development and institutional change in Dongguan

The prefecture-level city of Dongguan, located between Shenzhen and Guangzhou has a total area of 2,465 square kilometres. It has a population of 8.29 million and 1.87 million

registered households.

Before reform and opening in the late 1970s, Dongguan was an agriculture-oriented county. It had a population of 1.1 million, including 0.93 million rural residents. In 1978, its GDP was 611 million *yuan* (per capital GDP was 533 *yuan*), 44.6 per cent of which was engaged in primary industry (DGBS, 2012). Agricultural and sideline products accounted for 51.2 per cent of Dongguan's export products in that year (Dongguan University of Technology and Huangpu Customs, 2012). Compared to cities such as Guangzhou and Foshan, which have traditional industrial foundations, Dongguan's manufacturing capabilities were weaker.

Since economic reform, Dongguan took full advantage of the central government's policies, as well as close connections with Hong Kong, Macau and overseas Chinese⁵³, to explore ways to develop an export-oriented economy. With local government organs offering cheap labour and land, and capital and technology from foreign investors, Dongguan rapidly entered the international division of labour. This greatly boosted rural industrialisation and urbanisation, turning it into a notable base for processing trade.

The decision to implement economic reform by the central government was the window of opportunity for Dongguan to pursue prosperity. When the decade-long Cultural Revolution ended, central government considered developing its economy through the processing trade, taking advantage of cheap labour as well as making up for its lack of

⁵³ Both Guangdong and Fujian, which were appointed as the first two provinces to launch the SEZs, have a long history of diasporas that have migrated to Southeast Asia, North America, Oceania, South America, etc. since the 19th century. Mass emigration surged as a result of the poverty and ruin caused by political issues. Since the 1960s, a massive number of people in Dongguan, Shenzhen and Guangzhou near the border fled to Hong Kong: in the early 1960s, they left to escape the great famine; during the Cultural Revolution period (1966-1976), they fled to Hong Kong because of political repression or persecution. When the Cultural Revolution ended, coastal people were exposed to more information about the outside world through their overseas relatives. In contrast with the prosperity of Hong Kong, the extreme poverty in the mainland caused another exodus.

capital, industrial materials and technology. In July 1978, the central government issued *The Development of Foreign Processing and Assembling Business (Trial Implementation)* (it was briefly called ‘the 22nd document’, named after the order number of its announcement) in coastal provinces. This document waived tariffs and industrial-commercial tax for imported materials, components and equipment needed for the processing industry. In 1979, the State Council transformed trial regulations into formal regulations and issued *Developing the Foreign Processing and Assembling and Compensation Methods for Small and Medium-sized Projects*. These documents and follow-up policies permitted special customs supervision which favoured the processing trade, particularly for the first two trial provinces, Guangdong and Fujian. The policies initiated a new term called the *three-processing and one compensation (sanlai yibu)*, which included processing with imported materials, processing with supplied samples, assembling with imported parts and compensation trade. Since materials were imported from abroad and the finished products were exported, Chinese factories only were responsible for processing. This kind of production ran parallel to national production plans.

After the announcement of the “22nd document”, Guangdong provincial government promptly set up five counties—Dongguan, Panyu, Zhongshan, Nanhai and Shunde as pilot sites to implement this new policy. These policies allowed Dongguan to open up and reform.

Dongguan is positioned in the middle of the Guangzhou-Shenzhen economic corridor. Since the late 1970s, entrepreneurs in Hong Kong have faced increasing manufacturing costs, and sought the closest sites to where they could transfer their factories. Besides Shenzhen, Dongguan was an important foothold for Hong Kong manufacturers.

Geographical location and kinship ties between Dongguan and Hong Kong were key determinants in this process. Dongguan is the hometown of many overseas Chinese who fled to Hong Kong during the 1960s and 1970s. There are about 250,000 Dongguan-born people living abroad, and 800,000 living in Hong Kong and Macau, making 1 in 10 Hong Kong residents of Dongguan origin (Yang, 2009b).

To seize this opportunity to develop processing trade, the county government of Dongguan called on villagers to contact relatives and friends in Hong Kong to persuade them to return and invest. The government announced that there were no limits for businessmen to establish their factories in Dongguan, establishing a special group to handle issues surrounding the developing processing trade, including negotiating with overseas investors, constructing factories, transportation, and sending a team in charge of submitting application documents to provincial government in Guangzhou, and one in Shenzhen dealing with customs and border inspection. Moreover, Dongguan pioneered a one-stop service for administrative approval, which meant foreign investors could complete all necessary document work in less than two hours. Even now many places in China have yet to provide this service.

In September 1978, Hong Kong businessman Zhang Zimi set up the first nationwide *three-processing and one compensation* factory, the Taiping handbag factory, and the State-owned Taiping garment factory in Humen county, Dongguan. According to the agreement, Zhang introduced raw material and equipment, while the local government provided factory house and labour. Organized by Zhang, the finished handbag products were exported abroad to overseas clients. The factory was paid a processing fee, 20 per cent of which was refunded to Zhang Zimi each month as an instalment of the equipment fee. According to Zhang's advice, the workers were paid based on their individual

completed piece of work, instead of the previous uniform and fixed monthly wage, an innovation that stimulated workers' initiative. The factory received a one million Hong Kong dollars processing fee for the first year. The average monthly wage of workers in that particular factory was between 80 to 100 *yuan*, compared with 20 *yuan* of the local worker's average wage (He and Zhu).

Zhang Zimi's successful first attempt attracted many Hong Kong businessmen to Dongguan in search of inexpensive labour and land. The garment, toy, hardware, electroplate and other labour intensive manufacturing processing factories were set up in places such as common hall, canteen, and local residential houses. Local governments and village collectives eagerly applied for loans to build plants to attract foreign investors. The total export value of Dongguan in 1979 reached US\$53,820,000, using US\$1.73 million in foreign capital, which all came from the "three-processing and one compensation arrangement". By the end of 1984, Dongguan's export value had increased to US\$13 million. US\$50,000,000 of foreign capital had been introduced to its economy and 2,600 "three-processing and one compensation arrangement" projects had been established (Huangpu Customs and Dongguan Government, 2008). The processing and assembling industry transferred surplus rural labour to industry, stimulating rural industrialisation and modernization, and accumulated capital for further development in Dongguan.

China made significant economic growth from 1978 to 1981, but this was then followed by a period of stagnation with fiscal deficits due to huge increases in expenditure for economic reconstruction and financial decentralisation⁵⁴. A turning point was the Third

⁵⁴ Actually, Chinese central government had been running high fiscal deficits since 1979. The ambitious campaign "Foreign Leap Forward" advocated by Hua Guofeng, the top leader after Mao's death in 1976 and before Deng Xiaoping's resuming his leadership in 1978, imposed a very considerable strain on state finances, and helped create a

Plenary Session of the 12th Central Committee of the CCP in October, 1984. The leadership reached a consensus, committing to build a “planned commodity economy”, with a particular focus on urban areas and enterprises.

In 1985, Dongguan became an economic development zone of the PRD sanctioned by the State Council. It was promoted to be a city of county level in the same year, and a prefecture-level city later in 1988, both provisions of which granted the local government more authority to develop its economy. One special feature in administration is that the 32 towns are governed directly by Dongguan government, thereby reducing administrative costs and streamlining approval for investment projects.

During the 1980s and 1990s, developed countries accelerated industrial transfer globally, and a growing number of TNCs shifted their production system to developing countries. At the same time, China opened further to foreign investment and deregulated its economic system. OCIEs and FIEs were even granted super-national treatment in China, including the tax concessions and other favourable treatment offered by central and local governments to the overseas investment projects regardless of their technology level or their impact on the environment and resources. Since 1985, the central government had raised an export tax rebate system, which was a financial incentive to encourage export-oriented economy, and processing trade in particular. From 1988, a series of national policies were announced to promote export-oriented industry, including reducing the quota limitation on the processing trade. In mid-1990s, Shenzhen, the previous largest processing industrial base of China, began to retreat from labour-intensive industries and developed high-technology industries. A large number of processing and assembly

13.5-billion-yuan budget deficit in 1979—at the time the highest deficit in the history of the People’s Republic (Bramall, 2008). Other causes include issuing massive subsidies for raising the price of agricultural products, increasing the salary of staff and workers, compensating the sufferers of Cultural Revolution; the decentralisation that expand the financial authority of firms and local governments, etc.

factories thus transferred to the nearest city, Dongguan. Except for the dramatic increase of JVCs and WFIEs in Dongguan, local plants also benefited from the industrial agglomerations and improved their production technology from the spillover effect. Furthermore, China has greatly reduced its direct administrative measures for import and export such as quotas and licensing controls especially, after its accession to the WTO in 2001. Hence, with the exception of SOEs, privately-owned enterprises, OCIEs, FIEs and the enterprises of other ownerships were thereafter entitled to engage in import and export trade in more flexible ways. Due to the vigorous development of production capacity and independent operation ability, the total imports and exports under the term of general trade⁵⁵ have substantially increased. However, the processing trade has still maintain its dominance in Dongguan's foreign trade.

In the period of post-WTO, with its rapid export growth, the fast-accumulating foreign exchange reserves and increasing frictions with trade partners has led to great pressure of *Renminbi* appreciation and frictions between trade objectives and political objectives. Besides these issues, the export boom has further depleted China's already scarce resources, greatly impacted on the environment, and made life harder for the poor.

In order to keep its trade surplus under control, and transform its economy away from pollutant emissions and towards higher value-added production, China has profoundly modified its policy for export and FIEs during the period of 2006 to 2008. Central government issued the adjustment made to the export value added tax (VAT) rebate rates

⁵⁵ General trade refers to the import or export of goods by enterprises in China with import-export rights. In China's customs statistics, the scope of general trade covers: imports and exports using loans or aids; the import of materials and parts by FIEs for processing of goods for sale in the domestic market; the export of goods purchased by FIEs or manufactured by processing domestically-produced materials; the import of food and beverages by restaurants and hotels; the supply of domestically-produced fuel, materials, parts and components to foreign vessels or aircraft; the import of goods as payment in kind in lieu of wages in labour service cooperation projects with foreign countries; and the export of equipment and materials by enterprises in China as investment in kind for their investment abroad (HKTDC Research, 2012).

for certain products and the expansion of the prohibited category under processing trade, reducing the average export tax rebates from 16.3 per cent in January 1994 to 12 per cent in September 2006 (FHKI, 2010: 18). Export VAT rebates of 1,537 items on export products in total were abolished, lowered or raised. Rebates for certain products with high energy consumption, high pollution and resource consumption, as well as low value-added, as well as products that might easily trigger international trade friction, were removed or lowered. At the same time, the export VAT rebates for high-tech and high value-added products were raised. The change had a direct impact on the cost of export enterprises. For both enterprises processing with imported materials and enterprises processing with supplied materials, the import duty and VAT of their imported materials and parts were subject to the customs duty deposit system. However, for enterprises processing with imported materials, the locally-purchased materials and parts and the value-added portion carried out within the mainland were subject to VAT “exemption, deduction and rebate”. Hence, the removal or reduction of export VAT rebates meant a higher amount of tax payable by the export enterprises. Normally, the profits of export enterprises were influenced by the rebates, especially the traditional labour-intensive enterprises which were heavily dependent on rebates. For example, the export VAT rebate rate of textiles was reduced from 13 per cent to 11 per cent, and the amount of export tax payable rose by two per cent, which was fatal for lots of garment processing enterprises⁵⁶.

Those products which had their export VAT rebates abolished came under the prohibited category. The number of prohibited import raw materials increased from 80 to 400 items⁵⁷. The prohibited items were mainly low value-added, high energy consumption and high pollution products, such as mineral water, coal, asphalt, combustible gases and

⁵⁶ Ministry of Finance and the State Administration of Tax. The notice about the export rebate reduction of selected products, no.90, 2007. Accessed September 1st, 2014. <http://www.chinatax.gov.cn/n810341/n810765/n812176/n812778/c1194297/content.html>.

⁵⁷ Ibid.

pesticides. The export and import of these products were not subject to VAT rebates and bonded treatments. Before the policy change, such processing enterprises could import the necessary raw materials under bond in the form of processing trade contracts. But with the implementation of the new policy, raw materials put under the prohibited category in the processing trade could only be imported in the form of general trade and, as such, they were subject to customs duty and VAT. Also, when the finished products were exported, they were not entitled to any tax rebate. This would definitely increase their production cost. Furthermore, since the FIEs engaged in processing with supplied materials did not have legal person status in mainland China, they were not allowed to handle imports and exports in the form of general trade. Even if they were willing to pay import duties under general trade terms for the necessary raw materials imports, customs would not grant approval. In other words, enterprises engaged in processing with supplied materials whose production involved products under the prohibited category, they had practically lost their qualification to continue operation.

In 2007, a few directorates were consecutively issued to continue adjustments to export VAT rebates and catalogues of prohibited and restricted products. Since July 2007, there had been 2,268 products which tended to cause trade friction, the export VAT rebates of which were lowered. The rebates were abolished for 553 items which were consumed high levels of resources and caused high levels of pollution; 10 products were exempt from export tax. 37 per cent products of the total in customs tariff code system was in the list of adjustments, and the largest reduction was up to 13 per cent. It was also the first time the government listed the products restricted for export, and that the restricted products announced before 2007 were mainly imports. This showed the government was executing stricter supervision of exports, and domestic production. Moreover, another 550 products were added to the list in November 2007 (FHKI, 2010: 18).

Announcement No. 44 was effective from 23 August, 2007, and introduced new commodity restrictions for export processing. The products covered 1,853 Harmonised System Customs Codes (HS Codes), in textiles, plastics, parts of furniture and other low-end and labour-intensive industries, which took the share of 15 per cent of all the HS Codes in China. According to different size and content of export records, export processing enterprises in the coastal regions had to provide deposit guarantees equal to 50 to 100 per cent of the amount of duty and VAT tax. The customs department claimed that it had effectively brought an end to the re-importation of domestic textiles and fabrics, which was a widely used tax-avoidance technique. Moreover, the provisional regulations on VAT implemented since 2009 ended the privilege of duty-free imported non-priced equipment provided by foreign investors, further reducing the preferential treatment for processing trade enterprises (FHKI, 2010: 18-19).

However, at the outbreak of the global financial crisis in 2008, exports fell precipitously, which caused China's economic downturn. Central government thus increased export rebates and removed restrictions to ease pressure on exporters and to stimulate exports again. The rebate rates of thousands of labour-intensive products, such as textiles, garments, and toys, were raised by several times during the period between 2008 and 2009. At the same time, the rebates on high value-added pharmaceutical products, electronics and mechanical products were also increased. The average rebate in Guangdong went from 12.21 per cent in July 2008 to 14.28 per cent in June 2009. In 2009, the total tax rebate for Guangdong was 146.55 billion *yuan*, an increase of seven per cent year-on-year, and achieving a historical high. From November 2008, thousands of products, taking the share of 77 per cent and 30 per cent of the restricted and prohibited lists, were taken off from the lists. The deposit guarantee requirement for some export

products and enterprises was also suspended. Moreover, interest rates on tariff payments made for the processing products transferring to domestic sales were reduced from 6.12 per cent to 0.36 per cent (FHKI, 2010: 19).

In addition to the adjustment of processing trade policy by central government, there were other macro changes which caused stress on trade processing enterprises. The *yuan* had appreciated at a fast rate against the dollar since China loosened its grip on the exchange rate in July 2005. The appreciation of the RMB coincided with the rise in the price of raw materials in international markets, and the rise of domestic labour costs, which in turn caused the trade processing enterprises to increase costs, thereby incurring exchange loss as well as losing competitiveness.

Moreover, the two different corporate income tax systems, for overseas enterprises and domestic enterprises, were terminated at the end of 2007. A uniform rate of 25 per cent was implemented from 2008. Before 2008, the nominal corporate income tax rate was 33 per cent for both overseas and domestic enterprises. In practice, general OCIEs and FIEs were taxed with the rate of 24 per cent, the rate for the OCIEs and FIEs engaged in specific or preferential industries was 15 per cent; general domestic enterprises were taxed with the rate of 27 per cent, or 18 per cent for the domestic enterprises engaged in specific or preferential industries. It had particularly great impact on those small- and middle-sized OCIEs and FIEs that manufactured labour-intensive products⁵⁸.

Finally, but not of least importance, the new labour contract law, which took effect from 2008, marked a step forward in terms of the protection of employees' rights. It made use of written contracts between labour and enterprises mandatory, and encouraged

⁵⁸ Ministry of Finance, The instruction of the corporation income tax of the PRC (draft). March 8th, 2007. Accessed July 1st, 2016. http://www.mof.gov.cn/zhuantihuigu/qysdsf/casm/200805/t20080519_26080.html.

open-ended contracts to protect the workers. Managers from Hong Kong and Taiwan companies interviewed for this research viewed the law as having a clear bias towards open-ended contracts, therefore reducing the flexibility of enterprises' recruitment, making temporary, seasonal, and contract-based work more difficult. Moreover, the law expressly stipulates that enterprises should offer defined benefit plans, which further increased costs⁵⁹.

Overall, the overseas investment and processing trade provided considerable leverage for Dongguan, enabling its economic "take-off". However, it has raised questions concerning whether Dongguan could go further along its development path with the transformation of China and provincial economic industrial policies.

4.2 The processing trade of Dongguan

4.2.1 The increasing dominance of FIEs

Dongguan was among the two cities with the greatest density of processing trade enterprises in China. Its total processing trade contributed to 25 per cent of national processing trade. Suzhou⁶⁰, the other city, is situated in Jiangsu province and famous for

⁵⁹ Interviewee A, a Hong Kong investor in Dongguan, Representative of DGAEFI, Dongguan, August, 2013; interviewee B, a Taiwanese investor in Dongguan, Representative of Dongguan Taiwanese Businessmen Association, Dongguan, August, 2013.

⁶⁰ During the late 1970s and 1980s, Suzhou began its economic development with the growth of township enterprises and collective enterprises. However, since the 1990s, Suzhou has evolved into an externally oriented economy. It changed its development strategy, relying on attracting foreign investment through industrial parks set up by governments. The most significant example is the China-Singapore Suzhou Industrial Park (SIP), which was a joint project started in 1994 and developed by the highest level of Chinese and Singaporean governments. The SIP enjoyed a series of special policies, including the authority of independent approval of foreign investment projects and the power to issue visas for foreigners. The SIP and the surrounding areas have grown into a cluster of leading IT parts and components producers. In 2013, its GDP achieved 190 billion yuan, accounting for about 15 per cent to Suzhou's GDP. It received \$196 million of foreign investment and its total imports and exports amounted to \$80.46 billion (JSBS, 2013). However, SIP has been increasingly competing with other industrial parks, such as Suzhou New District industrial park set up by Suzhou government. Compared with the model of strong government intervention in Suzhou, the industrial agglomerations in Dongguan were more enterprise-oriented. The resources allocated by the

its agglomeration of enterprises in government-planned industrial parks.

Processing trade has been the main driving force for Dongguan's economy and foreign trade growth during the past three decades. There were over 10,000 processing trade firms in Dongguan by the end of 2013 (Dai, 2014). According to an interview with the head of the department of industry, Ministry of Commerce, organised by state-run media, the processing trade in Dongguan had so far provided over 20,000,000 jobs in the last twenty years, making millions of peasants become industrial workers, and promoting the economic growth and urbanisation of Dongguan (Commerce, 2013). In 2006, the imports and exports of processing trade in Dongguan achieved US\$76.15 billion, accounting for 90.4 per cent of Dongguan's total foreign trade value. Although the share of processing trade has decreased since then, it grew to US\$104.4 billion in 2011, maintaining an overwhelmingly dominant share of 76.9 per cent of Dongguan's total foreign trade value (Dongguan University of Technology and Huangpu Customs, 2012).

Table 4.1 Processing trade and general trade of Dongguan, 1993-2011.

Year	Processing Trade				General trade	
	Processing with Supplied Materials		Processing with Imported Materials		Total Exports and Imports	Total Exports and Imports
	Total Exports and Imports (\$100 million)	Share of Total Processing Trade (%)	Total Exports and Imports (\$100 million)	Share of Total Processing Trade (%)	and	(\$100 million)

government to their subordinates were relatively equitable. Hence, there were few official industrial parks in Dongguan.

1993*	61.0	70.8	25.2	29.2	86.16	1.15
1994*	73.8	63.0	43.3	37.0	117.11	2
1995*	78.9	57.7	57.8	42.3	136.68	3.01
1996*	88.1	55.2	71.5	44.8	159.55	2.54
1997*	102.5	51.8	95.6	48.2	198.1	2.56
1998*	111.3	50.3	109.9	49.7	221.17	2.58
1999*	134.2	50.4	131.9	49.6	266.02	6.8
2000*	147.9	50.1	147.4	49.9	295.23	9.34
2001**	162.5	50.6	158.9	49.4	321.38	9.43
2002**	209.4	50.5	205.3	49.5	414.78	11.83
2003**	221.1	45.8	262.0	54.2	483.1	19.32
2004**	259.1	43.7	333.2	56.3	592.29	30.74
2005**	282.8	41.8	393.0	58.2	675.84	41.15
2006**	292.8	38.4	468.7	61.6	761.48	52.57
2007**	393.4	41.3	559.3	58.7	952.67	72.86
2008**	415.2	41.7	579.3	58.3	994.5	94.3
2009**	312.1	39.0	487.6	61.0	799.7	102.8
2010**	339.0	34.6	641.6	65.4	980.6	171.1
2011**	286.8	27.6	753.6	72.4	1040.4	233.0

Source: Compiled by author from *White Paper on Dongguan's Foreign Trade during China's 30 Years of Reform and Opening-up* (2008)*; *Dongguan and Pearl River Delta's Foreign Trade Development Report 2011: Transformation and Upgrading of Processing Trade and New Changes in Foreign Trade* (2012)**.

Table 4.1 shows the change of Dongguan's total exports and imports in processing trade and general trade from 1993 to 2011. In terms of processing trade, the mode of processing with supplied materials had an overwhelming share during the period in question, but since then has decreased almost year by year; the mode of processing with imported materials started to overtake the mode of processing with supplied materials for the first time in 2003, and increased to more than 70 per cent in 2011. In the first mode of processing with supplied materials, raw materials or intermediate inputs are supplied by foreign clients while processed goods made in China were also owned by them. The

Chinese firms are 100 per cent duty free for the imports. However, they make money only from processing charges with all other incomes distributed by foreign clients. In the second mode processing with imported materials, raw materials or intermediate inputs are purchased and imported by Chinese firms as well as the ownership of processed goods. The Chinese firms are required to pay import duties (or an equivalent or a part of cash deposits) for inputs, and then receive a full duty rebate after exporting all the processed goods. They sell the goods in overseas markets and made profits from price differences in operating expenses. The requirements for these Chinese firms are more demanding, because they have to have sufficient cash flows to cover import duties, and have to have direct access to overseas markets. They also take greater risks on international sales than the first mode of processing firms. However, the second mode of processing firms have more independence and initiative on production and profit making. They also have greater flexibility and options for purchasing materials and intermediate goods. The growing share of the second mode reflects the fact that their products have been increasingly recognised in international markets. Furthermore, it indicates that the processing trade firms of Dongguan have become more established in networks of global production by engaging in more parts of the production chain, such as sources and supply.

From the figures of general trade in Table 4.1, it is evident that there has been a sharp rise in this area in the past two decades. The biggest difference between processing trade and general trade is that finished products of the latter could be sold in both overseas and domestic markets. In the same way as the processing trade with imported materials, general trade firms had to pay import duties and value-added tax. They could also apply for a rebate for value-added tax if they exported processed goods, but import duties were not covered. In order to reduce duties and lower production costs, general trade enterprises preferred purchasing raw materials and parts locally as far as possible. As

domestic manufacturing capacity was enhanced, it was possible for more and more general trade firms to source fully localized supplies. However, the processing trade has always firmly held the dominant share. The export-oriented firms, especially those that exported high-tech and mechanical and electrical products, were likely to prefer the processing trade. For example, the proportion of processing trade products of high-tech products exported to the US, one of Dongguan's major export partners, were 98 per cent, 98 per cent and 97 per cent in 2009, 2010 and 2011 respectively; the same proportion exported to the EU, another major export partner, were 97 per cent, 93 per cent and 92 per cent in 2009, 2010 and 2011 respectively (Dongguan University of Technology and Huangpu Customs, 2012). One reason for this is because, domestic factories lack the ability to produce essential parts of high-tech products and sophisticated parts which still needed to be imported. Another reason is that FIE-dominant processing trade firms imported essential parts from other overseas branches, enjoying duty-free trade courtesy of Chinese policies and cheap Chinese labour.

4.2.2 Increasing participation in global production networks

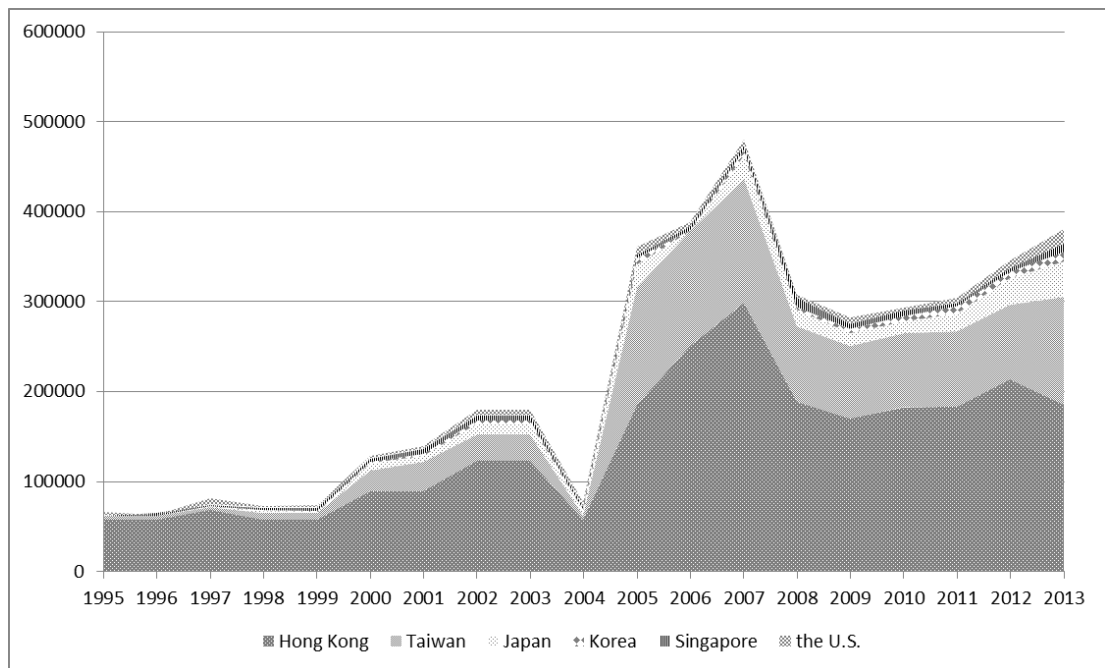
In the initial stage of opening, there were two forms of processing trade firms. The first took the form of foreign clients whose production had been consigned to domestic factories. As interpreted in chapter 3, foreign firms paid one-off processing fees to domestic factories, which included labour costs, administration fees and the rent of factory sites. These firms also experienced all the risks and benefits once the products were finished and then exported. As long as deadlines and quality control met the requirements of foreign clients, domestic factories arranged production independently with their own labour and machines. The second form was an indirect form of WFOE

whereby local governments or rural collectives set up factories as required by foreign investors, and produced bespoke goods on request. Although domestic interests nominally owned these enterprises according to business licenses, management and income were provided by foreign investors. Usually Hong Kong residents who had grown up in the same village or had kinship ties with the villagers, they had de facto control of importing raw materials and machines, recruiting local workers and the management of production. Managers, or collective leaders that they sent to the factories were primarily responsible for logistical support, and were paid by the foreign side. These indirect WFOEs emerged because applying for a processing trade enterprise license was much easier than establishing a WFOE in the 1980s and 1990s. For example, it took about one week for Hong Kong investors to obtain processing trade licenses and then begin business after submitting registration document copies of Hong Kong-based parent firms. But it used to take at least one or two months for foreign investors to secure permission to set up an FIE after submitting similar application forms, articles of incorporation, and other necessary documents. The Chinese government favoured this relatively simple processing trade mode because of concerns that domestic firms were not strong enough to compete with WFOEs, which it was feared would cause damage to a publicly-owned economy. This mode of processing trade could in turn help foreign investors avoid the long and complicated vetting process. However, the cooperation contracts signed by FIEs and local collectives were short-term (usually no more than five years) and small-scale. At that time, since factories were not nominally owned by foreigners, this put them at a disadvantage if a dispute arose in China's imperfect legal system.

Since the early 1990s, the Chinese economy has experienced accelerating growth and has become progressively more liberalised. Investment policy has also been much more open to overseas investors than before. A greater number of FIEs, other than those from Hong

Kong and Taiwan, had begun to enter China's manufacturing industries. Indeed, after the Asian financial crisis of 1997, an increasing number of OCIEs and FIEs moved their factories from East and Southeast Asia to China, or expedited their previous investment in China, which enhanced the competitiveness of Chinese manufacturing. The economy of Dongguan is driven by foreign investment, of which OCIEs and FIEs have accounted for almost two thirds of total manufacturing enterprises. In 2012, Dongguan attracted the second largest share of FDI in Guangdong, coming second only to Shenzhen. The share of OCIEs accounted for 40.8 per cent of total enterprises of Dongguan, and the share of FIEs was 23.2 per cent (GDDBS, 2013). According to figure 4.1, Hong Kong was the biggest overseas investment resource of Dongguan during the period 1995 to 2013. Since 2000 sources of overseas investment have diversified to include more Taiwanese, Japanese, Singaporean, American and Korean enterprises. However, overseas Chinese investment, including the resources of Hong Kong and Taiwan, has remained particularly dominant in Dongguan.

Figure 4.1 The actual utilised foreign capital flow in Dongguan (by countries or regions), 1995-2013



Source: Compiled by author from *Dongguan Statistical Yearbook*, various years.

Note: The actual utilised foreign capital flow includes FDI, foreign loans, the cost of imported equipment and raw material, and so on. The vast increase of actual utilised foreign capital after 2004 is considered as one of the results of China's accession to the WTO.

Although the processing trade of Dongguan started from the cooperation between TVEs and Hong Kong businessmen, its development in the last 10 years had greatly depended on the globalised production network run by TNCs. In addition, to enjoy cheap labour and favourable policies, TNCs poured resources into Chinese domestic markets. The two financial crises of 1998 and 2008 had little impact on this trend. However, a large number of market-searching foreign investors preferred the YRD than the PRD area. The strongest evidence of this is that most of the FIEs in Dongguan have continued in export-oriented manufacturing until now. Table 4.2 shows that FIEs had overtaken SOEs as the largest group engaged in Dongguan's processing trade since 2003. After China's accession to the WTO in 2001, the abolition of compulsory technology transfers and joint ventures with domestic enterprises led to an obvious tendency of sole proprietorship of

FIEs, which encouraged them to maintain a firm control of technology and investment. This was particularly true of Dongguan since it was regarded as one part of the TNC global manufacturing network rather than their key market. The share of WFOEs in the total processing trade maintained grew steadily and quickly. In 2001, the share of imports and exports in the total processing trade of Dongguan was about 30 per cent; the share increased to about 78 per cent in 2011 (the total value of imports and exports created by WFOEs was US\$81.67 billion, 7.4 times the number of 2001), which shows WFOEs' absolute dominance of the processing trade (Dongguan University of Technology and Huangpu Customs, 2012).

The reasons that have contributed to SOEs' decrease since 2003 include: first, as discussed above, China relaxed much of the operation for non-SOEs (including CIEs, POEs and FIEs). A great number of FIEs thus had swarmed into China. The rapid rise of POEs in table 4.2 also reflects the promotion of policy for the liberalising and expanding of export; second, compared with FIEs which had more direct connections with overseas markets, Chinese firms were more likely to be affected by economic fluctuation, especially during financial crises. For example, overseas orders and shares declined to differing degrees after Asian financial crisis in 1997 and global financial crisis in 2008. In recent years, under the push of provincial and prefectural governments, a number of Chinese firms transferred to general trade and the domestic market. The growth of general trade in table 4.1 suggests this trend. It was noted that although a sizeable number of foreign investors cooperated with collective firms in early years, the scale of value of imports and exports remained small due to the concerns as discussed before.

Table 4.2 Shares of different ownership enterprises of total processing trade in Dongguan

Unit: %.

Year	Total Imports and Exports of Processing Trade	SOEs	FIEs ¹	COEs	POEs
1993*	100%	73.1%	26.8%	/	/
1994*	100%	65.0%	35.0%	/	/
1995*	100%	59.6%	40.4%	/	/
1996*	100%	56.3%	43.0%	0.7%	/
1997*	100%	53.4%	45.6%	1.1%	/
1998*	100%	53.0%	46.0%	0.9%	/
1999*	100%	52.9%	46.5%	0.6%	/
2000*	100%	50.8%	48.5%	0.7%	/
2001*	100%	51.2%	48.0%	0.8%	/
2002*	100%	50.3%	48.6%	0.9%	0.1%
2003*	100%	35.6%	53.9%	0.8%	9.6%
2004*	100%	31.1%	56.0%	0.7%	12.2%
2005**	100%	29.6%	57.9%	0.8%	11.7%
2006**	100%	27.2%	61.0%	0.5%	11.3%
2007**	100%	29.7%	58.0%	0.8%	11.5%
2008**	100%	27.7%	57.6%	1.6%	13.1%
2009**	100%	24.1%	61.1%	1.8%	13.0%
2010**	100%	20.0%	66.3%	2.2%	11.3%

Source: Huangpu Customs and Dongguan Government (2008)*; Dongguan University of Technology and Huangpu Customs (2011) **.

Note: The term FIEs includes here overseas Chinese-invested enterprises and non-overseas Chinese FIEs. The registered forms of FIEs here include wholly foreign-owned enterprises (WFOEs), Chinese foreign joint venture enterprises (JVEs) and Chinese and Foreign Cooperative Venture Enterprises (CVEs).

Table 4.3 displays the share of different trade modes between Dongguan and its most close Asian trading partners. The high shares of imports and exports of processing trade

demonstrate that processing trade was the dominant trade mode. The shares of general trade had nudged up during the same period. However, Dongguan maintained absolute-high shares in processing trade with Hong Kong, Taiwan, Japan and Korea maintained, which shows Dongguan and Japan and NIEs had constructed a stable production network.

Table 4.3 Statistics of Dongguan and Asian trading partners, 2008-2010

Mode of Trade	Country or Region	Import			Export		
		2008	2009	2010	2008	2009	2010
		Share	Share	Share	Share	Share	Share
Processing Trade	Hong Kong	77%	78%	74%	93%	91%	91%
	Taiwan	91%	90%	84%	88%	87%	84%
	Japan	82%	82%	76%	97%	94%	87%
	Korea	84%	80%	76%	96%	95%	93%
	ASEAN	80%	78%	70%	84%	76%	76%
General Trade	Hong Kong	17%	19%	22%	5%	6%	8%
	Taiwan	5%	6%	10%	11%	11%	15%
	Japan	9%	10%	15%	3%	4%	5%
	Korea	5%	8%	10%	4%	5%	7%
	ASEAN	10%	10%	12%	16%	21%	23%

Source: Dongguan University of Technology and Huangpu Customs (2011).

Note: The share here means the share of the total trade value (including processing trade and general trade) between Dongguan and the given region or country.

Table 4.4 shows over 80 per cent of processing trade imports came from Japan, NIEs and ASEANs almost every year during the period examined (60.81 per cent in 2010 being the exception). Table 4.5 shows that the U.S., Hong Kong and EU were Dongguan's three most important export markets. Given that Hong Kong has been a city with a relatively

small population (7.50 million, and therefore not a big consumer market) and which possesses a port free of import duties, it was likely that a large number of processing goods from Dongguan were distributed to other overseas markets after initial imports to Hong Kong.

Table 4.4 Shares of trading partners in Dongguan's total imports of processing trade

Unit: %

Region/Country	2005	2006	2007	2008	2009	2010
Taiwan	32.92%	31.25%	29.95%	29.17%	29.61%	20.85%
Japan	19.18%	21.37%	24.41%	25.65%	26.33%	17.30%
ASEAN	17.10%	17.69%	17.77%	18.27%	18.89%	13.84%
Korea	13.44%	12.28%	12.03%	11.71%	11.63%	8.82%
Total	82.64%	82.59%	84.16%	84.80%	86.46%	60.81%

Source: Compiled by author from *Dongguan and Pearl River Delta's Foreign Trade Development Report 2010* (2011).

Table 4.5 Shares of trading partners in Dongguan's total exports of processing trade

Unit: %

Region/Country	2005	2006	2007	2008	2009	2010
The U.S.	33.82%	33.11%	29.06%	27.90%	28.03%	26.30%
Hong Kong	27.54%	27.95%	30.79%	30.29%	32.98%	33.85%
EU	17.53%	17.69%	18.63%	19.11%	16.40%	15.79%
Total	78.89%	78.75%	78.48%	77.30%	77.41%	75.94%

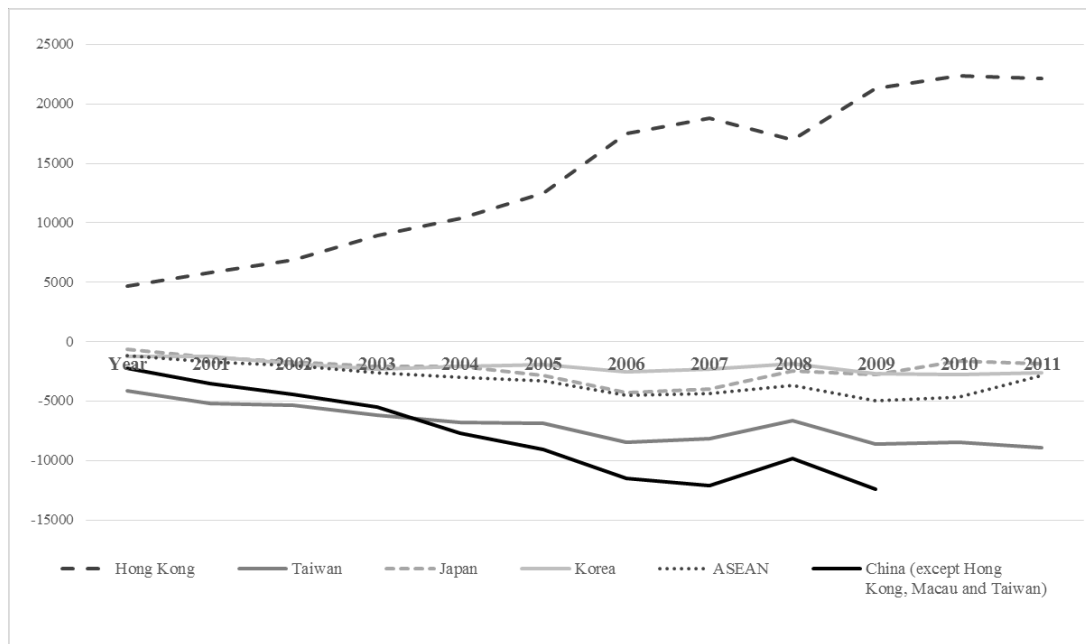
Source: Compiled by author from *Dongguan and Pearl River Delta's Foreign Trade Development Report 2010* (2011).

Figure 4.2 shows that Dongguan ran a trade deficit with Taiwan, Japan, Korea and ASEAN countries, but maintained a significant trade surplus with Hong Kong. The trade

balance between Dongguan and its closest Asian Trading Partners confirms the triangle of trade and the role played by Dongguan—it imported goods from Taiwan, Japan, Korea and ASEAN countries, processed and assembled these goods in local factories, then exported them to the U.S. and the EU through Hong Kong. The linkages within this trade triangle meant that if one side experienced change, its other sides would also change. The global financial crisis which broke out in 2008 is a case in point. This event, or events, reduced American and European consumer demand (meaning that the trade surplus with Hong Kong dropped), downsizing Dongguan’s demand for imports from East Asia and ASEAN, stalling its trade deficit growth with Asian trading partners in 2009. In 2010, a trade surplus with Hong Kong rebounded significantly, and the trade deficits with other Asian regions widened as well. However, after 2010 the trade deficits again narrowed, in particular for Japan in 2011 and ASEAN countries in 2012, partly due to an earthquake in Japan and floods in central Thailand. At the same time, the growth of a trade surplus with Hong Kong slowed.

Figure 4.2 Trade balance between Dongguan and its main Asian trading partners

Unit: \$ 1 million.



Source: Compiled by author from *Dongguan and Pearl River Delta's Foreign Trade Development Report 2010* (2011) and *Dongguan Statistical Year Book 2013* (2013).

Note: 1. The data of 2001-2010 were collected from *Dongguan and Pearl River Delta's Foreign Trade Development Report 2010* (2011), the data of 2011 was collected from *Dongguan Statistical Year Book 2013* (2013).

2. Data on China (except relating to Hong Kong, Macau and Taiwan) in 2011 and 2012 is not available.

It is noticeable in figure 4.2 that Dongguan had the largest trade deficit with China (except Hong Kong, Macau and Taiwan) since 2005. This is related to the *domestic goods re-importation*, which describes a process whereby goods manufactured and assembled in mainland China and exported out of China's customs area (including bonded area zone and bonded logistics centre), but are sent back to China without actual state change for specific reasons (Department of Statistics, 2006). Some goods are returned because of quality issues or economic disputes and others because of issues in global production and distribution networks of TNCs. In these networks, different parts of a finished product are manufactured by different countries or regions. Since a growing number of TNCs set up their procurement centres and sales markets in mainland China, their intermediate products may make multiple entries into China, which increase the chances of domestic goods re-importation.

However, it is more likely that firms maximized profits by taking advantage of China's preferential foreign trade policy, especially in the past ten years when more and more overseas Chinese and foreign firms have invested in Dongguan. On the one hand, in order to promote exports, the government has favoured the export firms by granting export rebates for their exporting materials, parts, manufactured goods in primary forms, semi-manufactured goods, etc. since the early 1980s. On the other hand, processing trade firms in China enjoyed either a reduction of, or exemptions from customs duty, when importing materials and parts. However, extra value-added tax and excise tax are levied if firms purchase materials and parts in domestic markets, though an option for partial refund was available after export. It is thus literally more favourable for processing trade firms importing materials and parts rather than procuring in the domestic market. Take a firm that produced electronics products as an example. It can obtain export rebates of between 13 to 17 per cent from exporting electronic units and parts. If these electronic units and parts are imported by the other processing trade enterprise, then it would be exempt from tariffs and import-related taxes. Hence the cost would be lower through export and re-import than completing the transaction at home. Sometimes the re-import of domestic goods is carried out in collaboration with import and export firms. Sometimes an operation can be solely by one firm which is permitted to do both exports and processing trade. An anonymous interviewee⁶¹ who is a managing staff working in a domestic private-owned export-oriented firm said that they could even get 20 to 30 per cent more profits in this way. According to the news report of the state-run Xinhua news agency (Zhao, 2007), most firms that produced digital cameras have manipulated domestic goods re-imports in this way. Given that the export rebates rate for electrical units and parts was raised to 17 per cent, the tariff for digital camera had already cut to

⁶¹ Interviewee C, Dongguan, August, 2013.

zero.

Moreover, most provincial governments executed export rebates by collecting tax first and then refunding it to enterprises regularly, either on a monthly or quarterly basis. The enterprises hence would prefer a method of more flexible export-and-re-imports to prevent against experiencing a shortfall of capital flows before they received refunds.

Initially, firms processing domestic goods re-importation usually did so through a so-called “one-day trip in Hong Kong”—exporting goods to Hong Kong, the nearest overseas region and a free port for free imports and exports, which were then re-imported to mainland China. As bonded areas, warehouses and logistic centres (these areas were free of charge of domestic tax and duty) have increasingly established in China in recent years, domestic goods re-importation can be manipulated with the much lower cost arrangement of “one-day trip in bonded area” especially for domestic private-owned SMEs. However, TNCs that have factories in mainland China still preferred “one-day trip in Hong Kong”. In addition to profiting from the difference in exports and imports prices, TNCs can transfer a part of the profits to their branch offices in Hong Kong or other overseas regions, and therefore make their branch factories in China unprofitable without paying any income tax according to China’s preferential policy for FIEs. Moreover, the firms can enjoy other preferential tax regimes if the value of exports reached 50 or more per cent of total sales (Teng, 2007).

In 1980 the re-importation of domestic goods totalled approximately US\$24 million, most of which were returns from overseas clients. However, the amount reached US\$73.36 billion in 2006, more than 3,056 times its 1980 total (Zhao, 2007). The method of domestic goods re-importation has become the largest import source of Dongguan,

which rose from US\$2.248 billion in 2001 to US\$12.43 billion in 2010, increasing its share from 15 to 24 per cent. It should be also noted that some export enterprises hired other bonded areas or warehouses outside Dongguan because of their lower prices. This sometimes leads to underestimating the value of foreign trade as seen from data collected by local governments and customs officials. An anonymous Dongguan reporter⁶² provided the information from county-level government that about four per cent of the value of total imports and exports was processed from goods cleared outside Dongguan in 2013, and the figure was up to about seven per cent during January to July of 2014.

The generation of large amounts of re-imported domestic goods was the result of foreign and domestic trade implemented through different tax policies administered by different departments. The rapid rise of domestic goods re-imported indeed reflects the more sophisticated development of Dongguan's manufacturing industry, covering the production of units, parts of the whole machine. However, the scale of foreign trade was expanded artificially through export enterprises' exploiting this loophole, resulting in a substantial loss in tax revenue. In 2006 central government decided to end tax exemption for importing by processing trade enterprises. It was swiftly opposed by export enterprises, especially FIEs. Hong Kong businessmen in Dongguan lobbied local and central government, announcing that they would transfer investment to Vietnam, India and other regions of Southeast Asia if those favourable policies were cancelled. The reform was repeatedly postponed due to pressure from business. In the last few years, it had resumed slowly driven by the government's determination to promote industrial upgrading.

The thesis further explores more details of the triangular relationship of trade through

⁶² Interviewee D, a news reporter worked for a Hong Kong-based Chinese newspaper during the period of 2005-2013. Interview via Skype, London, January 2015.

analysing the main exports and imports of Dongguan. I calculated the average value of all 44 main export goods and 49 main import goods⁶³ from 2003 to 2011(Dongguan University of Technology and Huangpu Customs, 2012).

The ten largest values of main export goods include automatic data processing machines and units thereof, articles of apparel & clothing accessories, parts of automatic data processing machines, furniture and parts thereof, footwear, static converters, liquid crystal display monitors, textiles, magnetic tape-type video recorder/players, and laser-optical video disc players. Table 4.6⁶⁴ shows capital-intensive export goods, such as automatic data processing machines and units thereof, parts had grown from almost nothing to the largest part of export goods. Their share peaked during 2004-2006, driven by China's accession to the WTO. They then descended slowly, perhaps affected by weakening overseas demand caused by global financial crisis, and the relocation of production of electronics from Dongguan to other parts of China. At the same time the trend for labour-intensive export goods, such as textiles and footwear, was downwards.

The values of import goods were more concentrated than export goods, therefore this thesis list the seven largest values of main import goods: electronic integrated circuits (IC) & microassembly parts, plastic materials in primary forms, liquid crystal devices, textiles, unrefined copper and articles thereof, steel, semiconductor devices. Table 4.7 shows that the imports of IC maintained a significant share during the past ten years, despite the global financial crisis. It indicates that both export and domestic demand for core electrical units and devices were strong. The shares of some imported goods had shrunk in recent years for multiple reasons, so that some were affected by the industrial

⁶³ Most data of the main export and import goods could be attained as early as from 1993, but a few were not available because they were new or their HS code did not exist before 2003. The average value of the goods here is equal to the total value of the goods from 2003 to 2011 divided by nine (years).

⁶⁴ The data in table 4.6 and 4.7 reflect the total exports and imports of Dongguan, not limited to processing trade.

transformation in Dongguan, such as textiles; some were caused to shrink by technological updates and being replaced. For example, the import value of liquid crystal devices rose and fell in the past ten years. Liquid crystal devices were used in a variety of the electronic display devices, such as television sets, cell phones, computers and tablet computers. The share of liquid crystal devices in total imports then declined after its 2007 peak, obviously affected by decreasing overseas demand. However, what was more significant was the aging of certain technologies, including liquid crystal devices, resulting in a loss of technical advantage. More innovative technology and materials, such as light emitting diodes (LED) and organic light emitting diodes (OLED) emerged as the core equipment of the next-generation of electronic products. Moreover, an increasing number of foreign monopolistic manufacturers are willing to establish branch factories in China for two reasons: on the one hand, China's market has vast growth potential; on the other hand, Chinese competitors have grown as technology matured, which made foreign investors complete for a market share.

Table 4.6 and 4.7 indicate that the largest export goods of Dongguan concentrated on relatively low-tech mechanical and electronic products, and traditional labour-intensive products, while the largest import goods were core electrical units and devices, and raw materials. The main exports and imports indicate further the role played by Dongguan in global production networks—the process and assembly of intermediate goods, and then export the finished goods. For example, Dongguan exports a large quantity of liquid crystal display monitors. At the same time it imports a corresponding share of liquid crystal devices which are necessary components for its exports. This also indicates that Dongguan or mainland China has not been able to produce the most sophisticated equipment. Although Chinese manufacturers have made progress in improving domestic technology, they have still kept in the low-end production and catching-up stage. By

contrast, high-end components and devices are monopolised by a few Japanese, Korean and Taiwanese producers. In fact, the technology of liquid crystal devices is tightly controlled by Japan's Sharp, Seko-Epson, Toshiba Matsushita Display Technology, NEC Display Solutions, Korean Samsung Electronics, LG Philips LCD, and Taiwan's AU Optronics, Chimei Innolux and Chunghwa Picture Tubes. It is consequently not difficult to understand why Dongguan has long maintained a trade deficit with Japan, Korea and Taiwan.

In addition to its electrical and mechanical exports, Dongguan is well-recognized for its apparel exports. Similar to the production of liquid crystal display monitors, Dongguan imported textile materials and fabrics from Japan and Korea. Then the finished garment would be sent to western countries and Japan through Hong Kong. Normally, the materials, design and pattern were all offered by Japan and Korea, while marketing was executed by Hong Kong. According to the country-of-origin rule, the garment was "made in Dongguan", though Dongguan was in a relatively minor and passive position in the production network with the smallest value added part of the share.

Table 4.6 Shares of main exports of total exports in Dongguan, 1993-2011

unit: %

Year	Automatic data processing machines and units thereof	Articles of apparel & clothing accessories	Parts of automatic data processing machines	Parts of Furniture and parts thereof	Footwear	Static converters	Liquid crystal display monitor	Textiles	Magnetic tape-type video recorder/player	Laser-optical video disc players
1993	0.87%	19.06%	0.75%	1.37%	9.96%	0.17%	/	4.51%	0.42%	
1994	1.44%	16.59%	1.40%	1.51%	9.00%	0.31%	/	4.22%	1.37%	
1995	1.55%	14.73%	2.73%	1.55%	8.35%	0.72%	/	4.21%	1.43%	
1996	1.98%	13.34%	2.37%	1.77%	7.79%	1.02%	/	4.90%	1.33%	
1997	4.34%	11.66%	3.17%	2.00%	6.85%	1.38%	/	3.96%	1.13%	
1998	6.78%	9.97%	4.27%	2.30%	5.68%	1.69%	/	3.83%	0.84%	
1999	10.09%	8.53%	4.25%	2.73%	5.40%	1.67%	/	3.69%	0.84%	
2000	9.60%	8.12%	4.26%	2.71%	4.45%	2.02%	/	4.18%	1.16%	
2001	9.76%	8.53%	5.02%	3.10%	4.07%	2.59%	/	4.39%	1.81%	
2002	11.80%	6.99%	5.23%	3.73%	3.61%	2.45%	/	4.72%	3.58%	
2003	14.50%	6.04%	4.54%	3.84%	3.82%	2.46%	4.74%	4.52%	4.77%	4.19%
2004	15.43%	5.03%	4.64%	4.02%	3.73%	2.68%	7.24%	3.70%	5.59%	5.17%
2005	14.75%	5.42%	5.09%	4.38%	4.03%	3.04%	7.84%	3.38%	4.70%	4.31%
2006	12.62%	5.69%	5.22%	5.01%	4.04%	3.37%	6.52%	3.20%	3.09%	2.84%
2007	12.59%	4.86%	5.08%	4.55%	3.71%	3.59%	6.08%	2.75%	1.95%	1.62%
2008	10.05%	4.86%	4.87%	4.23%	3.99%	4.08%	3.42%	2.24%	1.84%	1.46%
2009	7.66%	5.09%	4.84%	4.40%	4.30%	4.19%	0.79%	2.48%	1.53%	1.32%
2010	7.59%	5.60%	4.79%	4.61%	4.28%	5.17%	0.27%	2.18%	1.90%	1.80%

2011	7.81%	5.89%	4.43%	4.34%	3.75%	4.80%	0.27%	2.10%	2.07%	1.98%
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Source: Compiled by author from *Dongguan and Pearl River Delta's Foreign Trade Development Report 2011: Transformation and Upgrading of Processing Trade and New Changes in Foreign Trade* (2012).

Table 4.7 Main imports of Dongguan, 1993-2011

Year	unit: %										
	Electronic integrated circuits (IC) & microassembly parts	Plastic materials in primary forms	Liquid crystal devices	Textile materials, fabrics and articles thereof	Unrefined copper articles thereof	and	Steel	Semiconductor devices			
1993	2.24%	9.29%	/	17.73%	1.74%		3.46%	0.70%			
1994	3.16%	10.51%	/	15.68%	1.96%		3.10%	1.04%			
1995	4.74%	12.31%	/	16.05%	2.28%		3.77%	1.36%			
1996	4.13%	13.29%	/	14.91%	3.01%		4.14%	1.34%			
1997	5.48%	13.74%	/	13.52%	3.34%		5.35%	1.79%			
1998	6.86%	13.33%	/	12.26%	3.63%		5.85%	2.09%			
1999	8.86%	13.47%	/	9.93%	3.27%		5.25%	2.29%			
2000	8.80%	12.57%	/	10.14%	3.66%		5.78%	2.39%			
2001	10.86%	12.30%	/	11.03%	3.87%		5.89%	2.70%			
2002	12.38%	11.60%	/	9.89%	3.95%		5.40%	3.08%			
2003	12.74%	10.30%	4.91%	8.94%	3.83%		5.31%	2.90%			
2004	13.48%	9.47%	5.98%	6.98%	3.74%		5.45%	3.11%			
2005	14.77%	8.89%	8.68%	6.25%	3.91%		4.93%	3.31%			
2006	15.04%	8.90%	8.82%	5.75%	4.78%		4.37%	3.70%			
2007	17.84%	8.62%	9.01%	4.52%	5.08%		3.68%	3.59%			

2008	19.22%	7.67%	8.67%	3.67%	4.50%	3.52%	3.70%
2009	20.36%	7.92%	7.35%	3.95%	3.34%	2.81%	3.78%
2010	19.14%	7.55%	5.36%	3.39%	3.37%	2.94%	3.79%
2011	18.47%	6.65%	4.37%	2.92%	3.01%	2.34%	3.37%

Source: Compiled by author from *Dongguan and Pearl River Delta's Foreign Trade Development Report 2011: Transformation and Upgrading of Processing Trade and New Changes in Foreign Trade* (2012).

The above table shows different sources of exports and imports and reveals the route of processing trade and the role played by Dongguan. The city imported raw materials and intermediate goods mainly from Taiwan, Japan, Korea and the ASEAN countries, processed and assembled into finished goods in Dongguan, and finally exported to American and European markets, or transited through Hong Kong to overseas markets. During this process, Dongguan has increasingly participated in a global production network and functioned as one of the processing and assembly bases of TNCs. The production network is different from the one constructed in the 1970s⁶⁵ when the processing and assembly task was undertaken by NIEs. Since then, NIEs have developed into major exporters of essential and complex components and devices, while China (Dongguan) and ASEAN countries have succeeded as new processing bases or raw materials suppliers with their cheap labour and abundant natural resources. This finding resonates with the study of Fischer (2010) that is based on China's trade accounts. He observes that China has built very large trade surpluses with the US and the EU parallel to large trade deficits with East and Southeast Asia, both patterns emerging only since the East Asian crisis. Fischer considers that it reflects the massive rerouting of East Asian centred international production networks through China that followed the crisis. It also reflects China's subordinate third or fourth-tier position within these networks as a final low-wage processing assembler before goods exporting to Western countries.

During Dongguan's industrialisation, the share of manufactured goods in total exports rose from 48.8 per cent in 1978 to 94.8 per cent in 2011. It depended largely on international modularized production development, and the large-scale transferring of processing and assembly lines to China and Dongguan. However, what Dongguan

⁶⁵ The East Asian centred international production networks before 1980s were constructed mainly among Japan, NIEs and American and European markets. NIEs imported intermediate goods from Japan, processed and assembled into finished goods, and exported to western countries. The certain ASEAN countries that participated in the old mode, such as Indonesia, Philippines, Malaysia and Thailand, offered raw materials and exported primary goods to NIEs and Japan. China was not open and did not participate in an international labour division until the 1980s.

concentrated on was the production of minor parts and accessories, and the assembly of finished products. If the factors of foreign investment and processing trade were eliminated, the exports of Dongguan were still dominant in labour-intensive goods. The electronic and mechanical firms in Dongguan have mainly engaged in initial processing of raw and auxiliary materials, and the assembly of components and parts. They have been usually absent from other more value-added parts of the value chain, such as R&D, design, marketing, and after-sales services. According to the interview with an anonymous customs officer⁶⁶, in the mode of processing materials with supplied materials, a domestic processing trade firm could get about five per cent of total export value as a processing fee; it is difficult to estimate the situation in the mode of processing materials with imported materials, given that OCIEs and FIEs are the main body of the processing trade enterprises in Dongguan, and they usually import materials and parts from their overseas headquarters or branches. Furthermore, in order to evade tax, OCIEs and FIEs have manipulated price transfer by controlling material purchasing and finished goods sales.

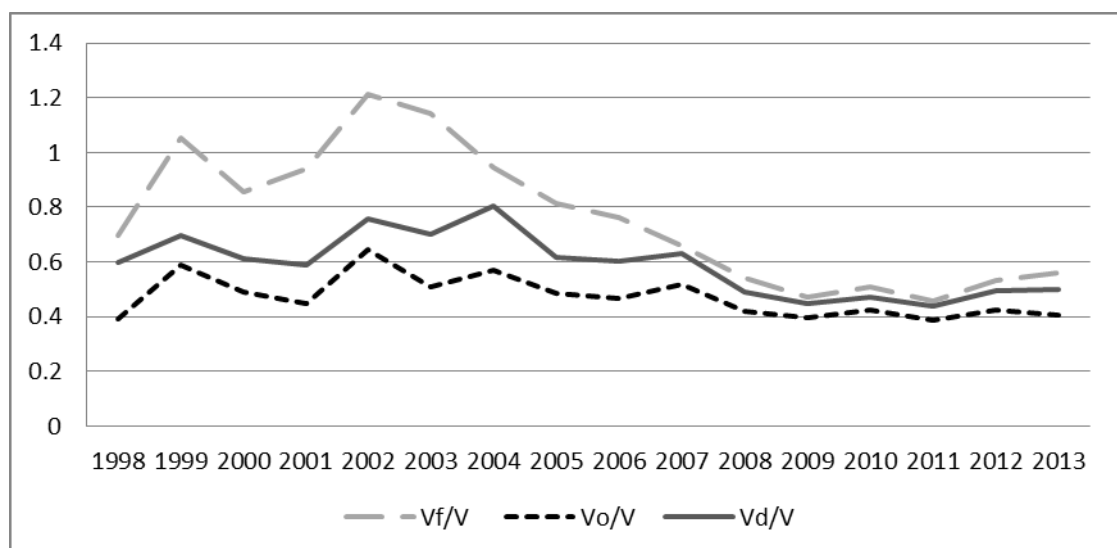
4.2.3 The labour-intensive development model

As elaborated above, export-oriented is a key feature of Dongguan's industry. Another key feature is the labour-intensive structure which is illustrated in figure 4.3. The figure exhibits the series of ratios of labour productivity of Dongguan's total firms, FIEs and OCIEs relative to Guangdong provincial labour productivity over the period of 1998 to 2013. Firstly, all three series remained lower than one in most of years, which means the labour productivity of Dongguan's firms was under provincial level. Between 1998 and

⁶⁶ Interviewee E, a customs officer, Guangzhou, August, 2013.

2002, all three series showed ups and downs, which was consistent with the economic situation of the time. The relative labour productivity of FIEs was the highest, and set the two highest records in 1999 and 2002 respectively. It can be inferred that they were caused by the influx of overseas investment after Asian financial crisis and China's accession to WTO. However, all three series exhibited trends of secular decline during the post-WTO period. They were apparently in line with neoclassical argument about China's endowment-determined comparative advantage. In other words, the firms of Dongguan, especially the OCIEs that has been the dominant group of Dongguan's firms, mainly took advantage of cheap labour supply. This further confirmed that TNCs preferred to keep utilising Dongguan as their processing and assembling centre rather than elevating its functions to a higher level of sophistication with a higher labour productivity. Moreover, these trends were also in accord with the claim of "deskilling" by radical political economy.

Figure 4.3 Relative labour productivity of OCIEs and FIEs of Dongguan, 1998-2013



Source: Compiled by author from *Guangdong and Dongguan Statistical Yearbook*, various years.

Note:

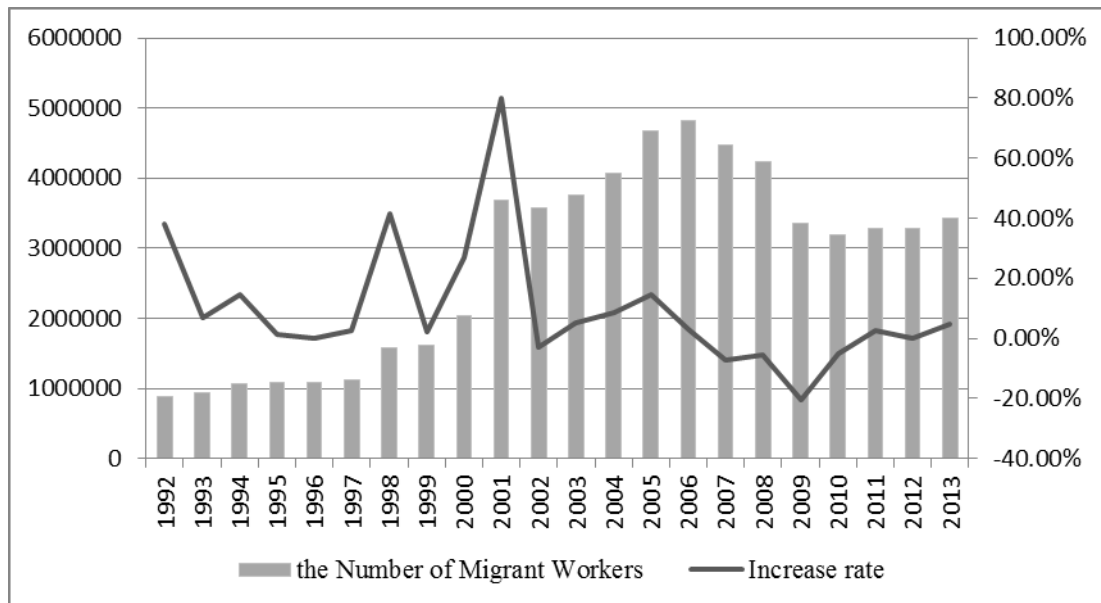
1. V=industrial added value (current prices, yuan)/labour employment.

2. V_f , V_o and V_d refer to labour productivity of Dongguan FIEs, Dongguan OCIEs and Dongguan total firms, respectively. Figures with no subscript refer to all firms of Guangdong. The category of “firms” refers to industrial firms above designated size.

Although it is inferred that Dongguan has a comparative advantage in labour-intensive products, the expectation of labour supply is not optimistic. Figure 4.4 shows that the pace of industrial migrant population growth substantially had slowed in the last ten years. The migrant population indeed started to shrink after peaking in 2006. According to a report produced by Dongguan City Association of Firms with Foreign Investment (DGAEFI)⁶⁷ (DGAEFI, 2013b), the labour employment of more than 70 per cent of its surveyed members decreased by 10 to 20 per cent compared with 2012. 70 per cent of the members suffered a labour shortage (mostly in demand of less than 100 persons, consisting of unskilled production line workers and skilled workers). Furthermore, over 30 per cent of member firms transferred part of their orders to be produced in other regions such as inland provinces of China, Vietnam, Cambodia, Pakistan, and Bangladesh due to cost and customer requirements. As elaborated in previous chapter, the PRD area, including Dongguan, tends to reach the “Lewis turning point”. Dongguan, therefore, will be unlikely to enjoy a continuous supply of “cheap and abundant labour” anymore, a supposedly critical determinant for its industrialisation.

⁶⁷ There are about 1,800 OCIEs and FIES in this association. Moreover, 75 per cent of the members were Hong Kong-funded firms, and other firms were invested by Japanese, Korean, American and Taiwanese (DGAEFI, 2013).

Figure 4.4 Change of Dongguan's migrant population in Industry, 1991-2013

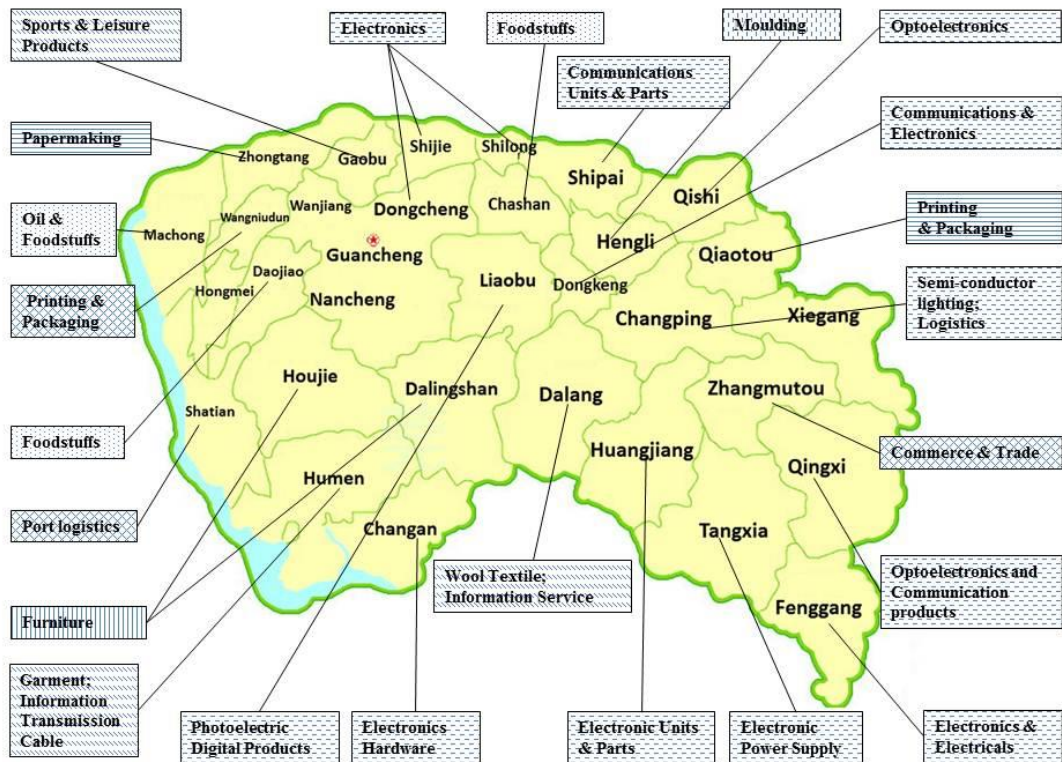


Source: Compiled by author from *Dongguan Statistical Yearbook* (2014).

4.3 The Cluster of electronics in Dongguan

There are 32 districts and townships (four districts and 28 townships are at the same administrative level) under the direct control of the municipal city of Dongguan. This is a pilot scheme that Guangdong province set up to grant more autonomy to relatively developed and urbanised towns in Dongguan and Zhongshan (a city in the centre of the PRD area), this system is different from China's normative municipality-district-town administrative division system. According to the provincial assessment of specialised townships (Guangdong Provincial Department of Science and Technology, 2008), Dongguan has 30 specialised townships, namely, 30 clusters with a certain industrial scale. Figure 4.5 below shows the geographical distribution of the specialised townships. From it, it is possible to recognise that all the specialised industries belong to secondary industries, significantly concentrated on electronics. The following sections will discuss in detail the development and features of electronics in Dongguan.

Figure 4.5 Map of specialised township of Dongguan



Source: Compiled by author according to the information issued by Guangdong Provincial Department of Science and Technology (2008) and the list of specialised townships issued by Guangdong Association for the Promotion of Specialised Township Development (2014).

Note: 1. The specialised townships of Dongguan could be classified as below (indicated with different shadings in the figure):

I Secondary Industry: ① Foodstuffs; ② Paper and Printing; ③ Textiles and Garments; ④ Electronics; ⑤ Moulding; ⑥ Furniture;

II & ⑦ Third Industry.

4.3.1 Taiwan's participation in the development of electronics industry

In the past three decades, the main exports of Dongguan have changed from labour-intensive products to capital-intensive products (part of the evidence for this is shown in table 4.6). Before the mid-1990s, the main exports were dominated by products

like textile and garments, footwear, furniture, and toys. Capital-intensive products have increased to more than half of total exports along with investments from Taiwanese enterprises and TNCs, particularly after 2000. In 2011, the share of capital-intensive industrial products out of total exports was 53.1 per cent, and the share of labour-intensive industrial products was 22.5 per cent (Dongguan University of Technology and Huangpu Customs, 2012). Electronics⁶⁸ is the most significant of capital-intensive products in Dongguan's export industries.

The booming of the electronics industry in Dongguan, as well as in mainland China, has been closely related to Taiwanese investment. Taiwan's electronic manufacturers became OEM contractors of TNCs in the 1980s. In 1987, Taiwan's government lifted its exchange controls and granted permission for entrepreneurs to invest overseas, which accelerated the relocation of electronics factories from Taiwan due to rising labour costs. In 1988, the mainland Chinese government announced new rules to encourage Taiwanese businesspeople to invest in the mainland, offering legal guarantees and favourable policies. In the national seventh five-year plan (1986-1990) composed by the central government, electronics was one of the 27 industries opened for domestic private and foreign investment. However, the first Taiwanese firm that settled in Dongguan in 1985 was a footwear manufacturer, geared towards the then-current dominance of labour-intensive manufacturing. At that time, most Taiwanese firms that invested in Dongguan followed Hong Kong investors' flexible and profitable processing trade mode, and engaged in traditional labour intensive industries, such as the manufacturing of garment, footwear and toys.

⁶⁸ According to the International Convention for Harmonized Commodity Description and Coding System (HS), the electronic products here mainly refers to goods which are listed with the initial codes 84, 85 and 90 in the categories of 16th (machinery and electrical) and 18th (miscellaneous). They include computers and parts, consumer electronic products and parts, electrical machines, resistances, semiconductors, integrated circuits, silicon wafer chips, etc. Sometimes, there are overlaps between the two terms electrical products and high-tech products.

1992 was a benchmark year for Taiwan and mainland China. Deng Xiaoping's southern tour revived China's opening and reform, and a continuous rounds of talks between the Association for Relations Across the Taiwan Straits (ARATS, mainland China) and the Straits Exchange Foundation (SEF, Taiwan) led to the normalisation of cross-straits relations, including direct shipping, flights, postal services, two-way investment, and travel. Furthermore, during the period of the eighth five-year plan (1991-1995), China expanded its opening to the world and foreign trade. The significance of this was that both coastal areas and inland areas were opened for foreign trade and investment; more industries such as electricity, minerals, steel, petroleum, chemical materials and infrastructure construction became accessible to foreign investors and cooperation. During this process, the electronics industry transformed from a sensitive military industry to a market-oriented pillar industry (Lo and Wu, 2014). In 1990, there were 1,600 foreign-funded firms (including JVEs, CVEs and WFOEs) engaged in the electronics industry, and US\$1 billion in foreign investment in actual use; in 1995, the number of FIEs increased to 10,264, with nearly \$7 billion in foreign investment in actual use. Foreign investment was no longer limited to simple processing trade projects, expanding to large-scale and high-tech projects led by leading TNCs, such as Motorola, NEC and Intel. In 1991, there were no firms that could manufacture products of IC and semiconductors; in 1996, there were 215 factories and 446 factories working on IC and semiconductors, respectively (BOMC and CCIA, 2011).

The transplant of Taiwanese electronic factories to mainland China kept pace with the development of China's electronics industry. Leading branded firms, such as Acer and Asus, and dominant foundries, such as Foxconn and Delta Electronics, entered the PRD area and YRD area in the early 1990s. Furthermore, Taiwanese electronics firms kept high agglomeration and production networks when they moved to mainland China.

Hence, a great number of Taiwanese SMEs that produced computer parts and peripherals, and consumer electronics, followed the leading firms to the mainland. Dongguan was one of the most significant cases to highlight this trend.

In the early 1990s, during the initial phases of relocation to Dongguan by Taiwanese firms, the main concern was the low costs of labour and geographical advantage necessary for import and export. Most of them chose the mode of processing trade as their predecessors as Hong Kong businessmen had done. At that time, Taiwan entrepreneurs saw this move as a trial since they were uncertain for the consistency and stability of policies on both sides of governments. Additionally, Dongguan's industrial foundation was too vulnerable to offer a necessary supply of Taiwan's electronics and IT production. In this way, most Taiwanese firms' imports of raw material and overseas sales were operated through Hong Kong. This relatively isolated production mode consequently led to less production linkage with local manufacturers.

As the cross-strait relationship stabilised, there was an upsurge of total Taiwanese firms in Dongguan, set off during the 1990s (table 4.1). From 1992 to 1997, there were more than 2,000 Taiwanese firms located in Dongguan, surpassing Shenzhen as the city with the most Taiwanese firms in Guangdong. The relationship between Taiwanese and Hong Kong investment had also begun to change. In 2005, Taiwan surpassed Hong Kong as the largest source of electronics investment, with 45 per cent of the respective total versus Hong Kong's 37 per cent (Yang, 2007). Until 2007, the year before the global financial crisis, there were more than 6,000 Taiwan-invested firms located in Dongguan, with a total FIE number share of 40 per cent. In 2011, the number of Taiwanese firms dropped to 4,200, and one third of the total FIE number. However, it was still the city with the most Taiwanese investors (and their families), of around 100,000 people. The amount of

Taiwanese capital actually being utilised had accumulated to \$17 billion, accounting for one quarter of total foreign investment in Dongguan (Huangpu Customs and Dongguan Government, 2008, Dongguan University of Technology and Huangpu Customs, 2012). It should be noted that the capital of Taiwanese investment was more than appears in recorded statistics, since many investors registered as Hong Kong or other foreign companies due to political or commercial reasons.

During this process, the electronics industry had become the most important pillar industry of Dongguan, replacing the traditionally-dominant labour-intensive industries. This example amply illustrates Taiwan's role in Dongguan's development. Indeed, Dongguan's electronics industry originated from the transferring of consumer electronics assembly lines from Hong Kong to Dongguan for reducing labour costs during the 1980s. Since the early 1990s, Taiwanese electronics firms have made substantial investments in Dongguan, particularly in desktop PC and related peripherals. They have developed the processing trade based on the notion of "order taken in Taiwan, made in Dongguan". Taiwanese investment has forged a sectoral distinction from Hong Kong's since then, because Hong Kong firms have continued to engage in the relatively simple production of home appliances. Later, TNCs from Japan, Korea, the U.S. and Europe, such as Hitachi, Samsung Engineering, Nokia, General Electric, Philips, and Nokia, and leading domestic firms such as Peking University Founder group, either established their branch factories in Dongguan or increased their previous investments. By the end of the 1990s, Dongguan had become one of the largest agglomerations of electronics firms in the world. It was one of the critical purchasing centres for multinational PC manufacturers such as IBM, Compaq, and Hewlett Packard. About 95 per cent of computer parts could be purchased in Dongguan, except Central Processing Units (CPU) and some other essential parts (Jiang, 2004). In addition to importing key units and parts, some parts, such as hard disks,

could be supplied by the FIE Seagate Technology and the SOE Great Wall (now renamed as Shenzhen Kaifa Technology) in neighbouring Shenzhen. With the thriving electronics industry, Dongguan had increasingly participated in international production networks.

Taiwanese-funded firms have played a dominant role in Dongguan's electronic industrial development. Almost half of total electronic firms in the city are invested by Taiwanese, contributing to over a 70 per cent of total output value of Dongguan's electronics industry. With Dongguan's industrialisation, Taiwanese enterprises have increased local sources of raw materials and components in Dongguan. Yang (2007), however, has interpreted this process as a pattern of "pseudo-localisation", because only lower-grade items, such as paper boxes for packing material, keyboards, and cables/connectors are sourced from local suppliers. Yang (2009a) has also noted that the electronics clusters in Dongguan were mainly led by third- or fourth-tier Taiwanese suppliers⁶⁹. For example, firm D, elaborated in the next section, is the largest power supply unit manufacturer in the world. In the international multi-tier production network of computers, the lower the tier position of manufacturers, the lower their profits, and the less their technological sophistication. What the local suppliers of those third- and fourth-tier Taiwanese suppliers in Dongguan bring to the network is cheap labour and land resources.

Dongguan's special geographical location is convenient for importing essential units and parts from Taiwan, East Asia and Southeast Asia, and exporting finished products to western countries. It is not necessary for Taiwanese investors to set up a high-end parts

⁶⁹ According to Yang (2009), the worldwide computer industry is configured as a pyramid. Microsoft and Intel sit at the top, rich in intellectual capital and flush with profits. Below them are the global PC flagship brands (first-tier)—Dell, HP, and Acer. They reap profits through ruthlessly efficient product sourcing and massive investment in marketing. They are supplied with near-finished goods produced by ODMs/OEMs (second-tier), which earn profits from low-cost and large-scaled production. For example, Taiwanese-owned Foxconn, Quanta and Compal are famous for their huge plants assembling a range of gadgets and personal computers in mainland China. The third-tier suppliers include two categories. One is core third-tier suppliers, which are usually the flagship manufacturers of hard disk drive, flat panels, CPU; the other is ODMs of power supply, battery, keyboards, motherboards, and cables/connectors. The fourth-tier suppliers are the manufacturers of plastic parts, keyboard caps, resistors, capacitors, screws, etc.

manufacturing bases in Dongguan considering the cost and less sophisticated intellectual property legal system there. The sustained trade deficit of Dongguan to Taiwan indicates that the most important machines and equipment, raw materials and intermediate products are produced, purchased and distributed by the headquarters. There is a great demand for essential electronic units and parts from this electronic manufacturing city. 80 per cent of IC products import to China are imported by Dongguan and other cities in the PRD area. There were three small-scaled IC processing factories in Guangzhou and Shenzhen, but their total production was less than ten per cent of the demand of the area, and none could produce 12-inch IC units. On the contrary, the YRD area where there had already been a traditional industrial powerhouse which has accumulated 60 per cent of domestic IC manufacturing firms, and 60 per cent of the output value of domestic IC industry. Regarded as an important area for access to domestic markets by foreign investors, almost all top international manufacturers of thin film transistor (TFT) liquid crystal displays have their branch factories in the YRD area, while the PRD has virtually none.

Taiwanese firms are characterised by network-based production groups in Dongguan, significant not just for their role in production networks, but also due to their relationship network (*guanxi*) based on high-profile clannishness and frequent interactions with local governments. Coupled with the transplant of Taiwan's production network to Dongguan, its social connection is enhanced by appointing Taiwanese management and establishing Taiwanese associations in local areas. Regarding inter-firm connections, Taiwanese lead firms and their suppliers usually communicate through face-to-face interactions, telephone calls and informal social gatherings, which are unlike the way that large-scaled ODMs/OEMs relate to global flagship firms. As for intra-firm communication, almost all the top management of Taiwanese-funded firms in Dongguan who are in charge of

decision-making and communication with headquarters are Taiwanese. Domestic college graduates are hired to work on quality assurance in workshops, with less access to a sophisticated R&D activity (interview with the secretary-general of Dongguan Taiwanese Businessmen Association, field work in August, 2013).

The Dongguan Taiwanese Businessmen Association, founded in 1993, had by January 2014 a record number of almost 3,000 member firms. It is one of the largest Taiwanese business associations in mainland China. The association went to great pains to build a Taiwanese community, organizing members to set up a Taiwanese-funded hospital and a school based on the Taiwanese education system covering age levels from kindergarten to senior high school. The association building is expected to be the tallest building in Dongguan after its completion in 2014. By transferring most of the production network and social connections from Taiwan to Dongguan, Taiwanese firms have been able to maintain competitiveness on vertical specialization and strong collaboration in Dongguan during the past 20 years. However, the close-knit Taiwanese community have, in effect, not made much access for domestic firms.

In addition to having production partnerships with domestic firms, Taiwanese firms have also kept contact with local Japanese firms, who had adopted similar technology and products. Generally, in the electronics industry of Dongguan, while relatively scattered local firms have engaged in the production of labour-intensive parts, Taiwanese firms have been clustered in electronic devices assembly, and Japanese firms excelled in the manufacture of precision electronic parts. Compared with Taiwanese and Hong Kong firms, other FIEs, like Japanese firms, have had less intention to procure locally. The main reason for this has been that the essential parts and units were usually not available in Dongguan, or the quality of the products produced by domestic firms are not reliable.

Moreover, elaborate red tape and complex official transaction have been required if FIEs purchased parts from domestic factories, which prompted FIEs to prefer imports rather than local procurement. Therefore, FIEs in Dongguan were not dependent on local suppliers, which led to less correlation and links, in turn effecting the transfer of information and technology spillover.

In recent years, the problems of a Taiwan-oriented processing trade model in electronics industry have been unfolding incrementally along with the Chinese government's policy shift and fluctuation in the international situation. In addition to the macro changes discussed in previous sections, central government modified the identification criteria for high-tech firms which enjoy tax breaks in order to accelerate the development of the "real" high-tech industry. A lot of Taiwanese electronic firms in Dongguan, including firm D, have had difficulty in conforming with the much stricter certification requirements and no longer enjoy favourable tax rates. Furthermore, from July of 2006, the EU began to implement the *Restriction of the Use of Certain Hazardous Substances* (ROHS), raising the requirements for environmental protection during the production of electronics, which put most electronics firms in Dongguan under pressure of rising costs. One Taiwanese businessman⁷⁰ interviewed estimated that, ROHS increased costs for manufacturers by about 10 per cent, with a similar knock-on effect on export prices of 15 per cent. The price advantage, one of the most important elements of competitiveness for Taiwanese electronics firms, has almost been lost. The interviewee further explained that electronics production in Dongguan depended on a low cost-seeking production chain on a giant scale, resulting in a lower position on the value chain with lower added value. Once a domino effect triggered across the entire chain, the domestic suppliers of Taiwanese firms were thus inevitably heavily affected.

⁷⁰ Interviewee B, representative of the Dongguan Taiwanese Businessmen Association, Dongguan, August, 2013.

4.3.2 Case study: the electronics industrial development in Shijie town

Located in Dongguan, Shijie town is a small-sized town with an area of 36 square kilometres and a registered permanent residential population of less than 40,000. It is only 78 kilometres from Shenzhen and 62 kilometres from Guangzhou which is less than an hour's drive from either of the two metropolises. The electronics industry started to develop in the town from as early as 1980. A Hong Kong businessman invested in an export-oriented processing factory, processing and assembling radio accessories and parts. When Taiwanese firm D, producing power supply units for PCs came to Shijie in early 1990s, it was still an underdeveloped town oriented towards agriculture. The initial reason why firm D considered transplanting its operations was the growing gap between their large number of orders and the labour shortage in Taiwan from the late 1980s. What surprised the management of firm D was the low labour wage in Shijie (the wage D paid for the same labour quality in Taiwan's factories was seven times what they paid in Shijie, which was also lower than workers' pay in Southeast Asian). In addition to low labour costs, both the Dongguan government and county government offered attractive arrangements to lease land and factory buildings. Moreover, Shijie was an advantageous geographic location for importing raw materials and exporting finished products considering logistics costs and time control, critically important for electronics contractors to complete their orders on time.

Firm D began drawing up plans to transplant operations in 1991, and set up its first branch factory on mainland China in Shijie in 1992, then rapidly expanded in Shijie. In its first year, it increased the number of workers on its payroll to 3,000; in its second year, it

purchased land to build its own factory, four times the size of their main factory in Taiwan; in the second half of 1994, a 16,000-square-metre factory I was completed; at the end of 1996, a 35,428-square-metre factory II was completed; in 1999, factories III, IV and V were successively completed. Except from its main product of power supply units, production in Dongguan expanded to communications products, accessories and parts, cable and wireless transmission products and so on. Firm D has become one of the world's largest power supply unit producers, and one of the largest Taiwan investors and OEM manufacturers in Dongguan. Its clients include Intel, IBM, Hewlett-Packard, etc.

The setup of firm D also encouraged Taiwanese electronics SMEs to move to Shijie. When firm D began planning to establish operations in the town, it could not even find a spanner there, not to mention other essential devices. This caused production costs to rise and offset a significant part of profits it made because D had to import all necessary raw materials and parts from Taiwan. Besides this, remoteness from the firm's suppliers brought about difficulties in communications and time management. It is claimed that there were at least 20-30 Taiwanese suppliers that originally cooperated with firm D in Taiwan which then followed it to Shijie. It was not an easy start for firm D to persuade its suppliers to come to Shijie. This is because most of these small- and medium-sized supply enterprises owners started their careers in Taiwan as blue-collar workers who had little knowledge about the world outside Taiwan. They had concerns about leaving Taiwan by a unanimous majority. However, with the assistance of firm D and the attractive incentives offered by local government, these suppliers have settled down in Shijie. In addition to those original Taiwanese suppliers, other Taiwanese, Hong Kong and domestic firms have gradually been incorporated into firm D's supply chain. Firm D claims to currently have more than 1,000 suppliers.

Through transplant to Shijie, firm D has enhanced its competitiveness and become the largest power supply unit manufacturer in the world. In the meantime, an electronics cluster has developed rapidly as production extended in Shijie. There were about 110 electronics products manufactured in the town, which could consist of 90 per cent of the parts of a computer. Its mass production capability produced output of 15 electronic products ranked in the top three in the world, including the power supply unit, the computer keyboard, the paper shredder, the transformer, the ceramic capacitor with axial lead, the cylindrical resistor, the varistor, the multi-layer inductor, the scanner, the direct current fan, the mouse, the multi-layer ceramic capacitor, the optical disc drive, PC connectors and the computer monitor (the People's Government of Shijie, 2014).

During the past two decades, Shijie has developed from a small agricultural town to a well-known electronics manufacturing powerhouse with a migrant population of more than 160,000. Processing trade is its main mode of foreign trade. In 2011, the export and import value of processing trade was US\$3.49 billion and US\$2.13 billion respectively, accounting for 96.4 per cent and 80.5 per cent of total exports and imports. The electronics industry has dominated the economy of Shijie. In 2007, its GDP exceeded 10 billion *yuan* for the first time. The output value of electronics accounted for more than 75 per cent of the gross industrial output value; in 2013, the share increased to 85 per cent (about 18.8 billion *yuan*). It had about 111 firms the main business income of which amounted to 20 million *yuan*, 63 of which engaged in electronics. About 68,899 people participated in the industry, accounted for 81.2 per cent of the total working population of the town (the People's Government of Shijie, 2014). In 2001, Shijie town was listed as a specialised town of the electronics industry by the Science and Technology Department of the Guangdong government; in 2004, Shijie was awarded the title of *national electronic information industrial base* by the national Ministry of Industry and

Information Technology; in 2009, the *Shijie electronics cluster* was selected as one of the first and most important clusters to be supported by the government of Dongguan; in 2010, it was recognized as one of the fifth groups of the *provincial industrial upgrading demonstration zone* by Guangdong government; in 2011, Shijie was further listed as a specialised town for electronics components and parts by the Guangdong Science and Technology Department (the People's Government of Shijie, 2014).

Furthermore, Taiwanese-funded firms indeed promoted the development of local electronic firms. Driven by FIEs, domestic firms have gradually evolved through learning by doing—developing from small-scale processing and assembly plants that were outsourcing suppliers of FIEs; a group of mainland workers who were once employed by firm D or its suppliers started their own business nearby. Most of them produced unessential electronic parts and peripherals, such as heat sinks and screws. Some of them created improved products exclusively for firm D. However, most domestic private firms still operate on a small-scale and in labour-intensive operations. In 2012, there were 14,396 private-owned firms in Shijie, accounting for less than ten per cent of the gross industrial value of the town only. The sales value of industry was 35.90 billion *yuan*, ranking ninth of 33 towns in Dongguan; its industrial added value rate was 18.7 per cent, ranking 27th of 33 towns (DGBS, 2013). Statistics indicate that the economy of Shijie depended greatly on leading FIEs, and its overall industrial capability is likely to remain at a relatively low level.

Due to rising labour costs and labour shortages, firm D has no further plans to expand their production in Shijie. Instead, it has progressively shifted its core production to the YRD area, and production that requires a great deal of labour resource to inner provinces. In the YRD area, the city of Wujiang in Jiangsu province is the second production base of

firm D in mainland China (the first plant was established in 1999). Compared with its Shijie branch that focusses on manufacturing, the Wujiang branch has had substantial investment to develop R&D, with the advantage of a rich pool of talent from the YRD area. Since 2002, the Wujiang branch has established nine labs that have engaged in technology improvements and the establishment of standards. Six of them have been recognised by the China National Accreditation Service for Conformity Assessment (CNAS), and two have been recognised by the Taiwan Accreditation Foundation (TAF). It was not until 2007 that the Dongguan branch set up three labs to cope with the environmental requirements of ROHS that was implemented by the EU from July of 2006. Another advantage of Wujiang is that its employment mainly consisted of local workers, which are regarded as more stable and easily controlled than migrant workers in Dongguan. In less-developed inner provinces, such as Hunan province, north of Guangdong province, local governments are enthusiastic about attracting overseas investment and granted favourable policies and treatment no longer available in Dongguan, according to one anonymous Taiwanese management interviewee⁷¹.

Moreover, the relatively recent rapid development of laptops, smart phones and tablets has sent Dongguan's factories into shock, most of which had processed and assembled traditional desktop PCs. As consumers began to show a preference for hand-held electronics, firm D stated their Dongguan branch plants recorded a decline in revenues in PC power switcher sales. However, as a TNC operating globally, firm D managed other revenues in other areas to fill in the deficiency. The management also predicted that there would not be much development space for desktop PCs, but that its development would be more diversified and specific. For example, desktop PCs have advantages in computer graphics interface (CGI) for animation production and motion picture special effects.

⁷¹ Interviewee B, representative of the Dongguan Taiwanese Businessmen Association, Dongguan, August, 2013.

However, small- and medium-scaled local suppliers in Dongguan have experienced significant difficulties in adapting with less financial resources and less innovative capability⁷².

While Firm D's establishment has boosted the thriving electronics cluster of Shijie, nonetheless, it has also raised the question of the sustainability of the local electronics industry in recent years. A large number of suppliers in Shijie, including Taiwanese and domestic firms, are heavily dependent on Firm D, in terms not only of order source, but also necessary innovation. However, the effect of knowledge spillover on local clustering has been limited due to the lead firm's lower tier position within the production network. Moreover, most of the suppliers which are producers of capacitors, resistors, plastic moulds, cables and cords actually have limited space and resources to develop innovation. The core production and R&D derived from upper-tier firms have been kept in Taiwan or places elsewhere with a comparative advantage in this regard, such as the YRD area. If Firm D recouple or decouple its plants in Shiejie, its suppliers, including Taiwanese and domestic firms are very likely to follow. Under such circumstances, it would definitely lead to a negative impact on the economy of Shijie.

4.4 Local institutions and path dependency of Dongguan

The export-oriented TNCs have been territorially embedded in the township economy of Dongguan, exploiting cheap and abundant unskilled labour and land resources. Being benefitted from incremental investment and the population, the local township governments and residents have become dependent on this externally-oriented economy.

⁷² Ibid.

Due to decentralisation policies in earlier years, township governments played a major role in attracting overseas investment and have a strong voice in decision-making. They were allowed to obtain significant shares of the revenue (processing fee) retention collected from processing firms. The proportion of the retention was quite flexible and differed from case to case, because it was comprised of the leverage of local governors when bargaining with overseas investors. Moreover, the growth of the rural collective economy was also at the expense of a great consumption of land. Since the 1980s, the collectives have generated revenue through selling and leasing plant buildings. Since the 1990s, the growing migrant population have increased their rental income. According to *The Deficit Report of Dongguan Rural Collective Economy* (2012) released to the media by the prefectural government, over 70 per cent of rural collective income came from property leasing, and over 80 per cent of net worth growth came from land circulation⁷³ earnings in recent years.

However, in order to promote industrial upgrading, provincial and prefectural governments have made great efforts to push processing trade firms into FIEs⁷⁴ in recent years. Given the closure of profit sharing after the transformation of processing trade firms, grassroots cadres have actually not been willing to take an active part in the campaign for industrial upgrading. Nonetheless, provincial and prefectural governments tightened land policy in recent years, which made the continued reliance on land expansion for collective development impossible. The rural collective economy report

⁷³ Rural land circulation means the activity of rural household in respect of contracted land ensures that contracts are legally honoured, while transferring their rights of management to other farmers or economic organisations. Rural land circulation mainly includes land transfers, land subcontracting, land exchanges, land cultivation entrustments, etc. Its subjects include the central government, the local government, rural collectivity, farmers and firms.

⁷⁴ Compared with processing trade firms, FIEs (including WFOEs, JVEs and CVEs) are independent legal entities, having the characteristics of clearly-established ownership, diversified operations, including processing trade, general trade and domestic sales, and being the subject of more favourable governments' policies. But the examination and approval of establishing a FIE, and its tax administration were much stricter than a processing trade firm.

revealed that Dongguan received about 10,000 *mu*⁷⁵ of land utilisation quotas from provincial government each year, 70 per cent of which were distributed on Dongguan government's priority projects (urban planning, infrastructure programs, major foreign investment projects, etc.), while the available quotas for individual rural collectives were very limited. At the same time, more than 2,000 foreign-funded processing trade firms were recorded as having transformed into FIEs that possessed the status of an independent legal entity, and were allowed to operate export and domestic sales until 2011. During this process, the prefectural government received more tax revenues from the transformed FIEs despite a reduction in profits for local collectives. In 2011, the rural collectives received 300 million *yuan* of retained foreign exchange, which was a fall of 57 per cent compared with a figure of 700 million *yuan* in 2006 (Dongguan Government, 2012). Besides this, according to the statistics, in 2007, prefectural total revenue was 18.64 billion *yuan*, town-level total revenue was 16.18 billion *yuan*, and rural collectives' total revenue was 14.02 billion *yuan*; in 2011, prefectural total revenue increased to 31.31 billion *yuan*, town-level total revenue grew to 30.03 billion *yuan*, but rural collective total revenue was 14.85 billion *yuan*⁷⁶ that did not increase too much comparing with the previous year (DGBS, 2012).

Furthermore, the depression of the manufacturing industry caused by the global financial crisis has increased the number of vacant plant buildings, resulting in the decline in the income of rural collectives. According to the rural collective economy report (2012), the average annual growth of rural collective net income decreased from 8.06 per cent during the period of 2001-2005 to 0.14 per cent during the period of 2006-2010. Negative growth was even reported in 2008 and 2009 in particular (table 4.8). The report claimed

⁷⁵ Mu is the unit of land area in Chinese. 1 mu equals to 1/15 hectare, or 1/6 acre.

⁷⁶ The figures for prefectural level and town-level revenues are derived from the disposable income of prefecture and towns of Dongguan Statistical Year Book (2008, 2013). The revenues of rural collectives are derived from the rural collective total revenue of The Deficit Report of Dongguan Rural Collective Economy (2012).

that the decrease in profit from leasing was one of the most important reasons for rural collective income decline. Without considering the cost of land, the standard plant building construction cost was about 600-700 *yuan* per square metre in 2005, rising by 60 per cent to 1,000-1,100 *yuan* per square metre. At the same time, the total rents of collective property (including plant buildings rents, shop rents and administration fees and other related income) decreased from 11 *yuan* per square metre per month to 10 *yuan* per square metre per month. Thus, keeping constructing plant buildings was a loss-making exercise for rural collectives. One village in Fenggang town, cited in the report, launched 80,000 square metres of plant buildings on loan in 2008. However, a large number of factory closures caused by the global financial crisis emptied the plant buildings, and causing the net income of the village to decrease from 28.85 million *yuan* in 2007 to 16.53 million *yuan* in 2009 (Dongguan Government, 2012). Moreover, an increase in expenditure on infrastructure projects and social welfare, and a growth in resident population for collective dividends all boosted fiscal spending and led to a deficit. In short, the revenue and bargaining power of local governments have weakened.

Table 4.8 Deficit report of Dongguan rural collective economy, 1989-2005

Year	Total Assets (100 million <i>yuan</i>)	Total Assets Growth Rate (%)	Liabilities (100 million <i>yuan</i>)	Net Asset (100 million <i>yuan</i>)	Asset Growth Rate of Net Asset (%)	Asset-Liability Ratio (%)	Collective Revenue (100 million <i>yuan</i>)	The Growth Rate of Total Revenue (%)	Collective Net Income (100 million <i>yuan</i>)	The Growth Rate of Net Income (%)
1989	23.2	/	10.1	13.1	/	43.53	6.39	/	4.53	/
1990	29.8	28.45	13	16.8	28.24	43.62	7.18	12.36	5.09	12.36
1991	42.3	41.95	19.4	22.9	36.31	45.86	9.09	26.6	6.25	22.79
1992	82.2	94.33	41.3	40.9	78.6	50.24	14.18	56	9.88	58.08
1993	142.6	73.48	72.7	69.9	70.9	50.98	21.95	54.8	16.77	69.74
1994	198.8	39.41	101.7	97.1	38.91	51.16	32.29	47.11	23.62	40.85
1995	268.5	35.06	94.7	173.8	78.99	35.27	41.23	27.69	30.03	27.14
1996	307.9	14.67	102.3	205.6	18.3	33.23	51.16	24.08	34.22	13.95
1997	348.1	13.06	105	243.1	18.24	30.16	53.58	5.22	37.53	9.67
1998	398	14.33	111.9	286.1	17.69	28.12	61.71	14.64	40.37	7.57
1999	453.3	13.89	117	336.3	17.55	25.81	69.33	12.35	44.93	11.3
2000	505.8	11.58	131.4	374.4	11.33	25.98	77.5	11.78	49.07	9.21
2001	557.2	10.16	140.4	416.8	11.32	25.2	84.75	9.35	53.19	8.4
2002	623.4	11.88	152	471.4	13.1	24.38	91.39	7.83	56.6	6.41
2003	722.9	15.96	170.2	552.7	17.25	23.54	100.4	9.86	61.9	9.36
2004	863.8	19.49	196.6	667.2	20.72	22.76	111.52	11.08	67.92	9.73

2005	929.6	7.62	221.6	708	6.12	23.84	120.57	8.12	72.52	6.77
2006	1004.7	8.08	252.5	752.2	6.24	25.13	131.52	9.08	76.49	5.47
2007	1088.6	8.35	267.4	821.2	9.17	24.56	140.19	6.59	81.8	6.94
2008	1135.1	4.27	275.3	859.8	4.7	24.25	141.02	0.59	77.69	-5.02
2009	1173.5	3.38	283.3	890.2	3.54	24.14	136.1	-3.49	72.32	-6.91
2010	1228.2	4.66	292.2	936.05	5.15	23.79	143.38	5.35	76.39	5.63
2011	1234.9	0.55	280.4	954.5	1.97	22.71	148.48	3.56	79.02	3.44

Source: Dongguan Government (2012).

Along with the boom of external investment and population, local residents, which mainly consist of rural collective members, “got rich quick” through the leasing of land and buildings. Besides this, a large part of their income has come from the service industry. On the one hand, due to overseas enterprises’ great proficiency in manufacturing, and SOE’s monopoly on the industries of finance and infrastructure construction, local private investment is more likely to enter service industries that have a much lower entrance threshold. On the other hand, a growing number of consumers brought by the overseas investment and manufacturing sector have promoted the development of the service industry. This is one of the most important reasons local governments intend to keep processing, not only in order to generate jobs and government revenues from overseas investment projects, but also to bring consumers and demands to local service industry. Real estate, hotels, catering, wholesale and retail are the sectors that have garnered the most domestic private investment in Dongguan. In 2012, private investment accounted for nearly 30 per cent of total real estate investment, and 90 per cent of the hotel, catering, wholesale and retail industries respectively were owned by domestic private enterprises (DGBS, 2013).

The flourishing of Dongguan’s service industry is based on its prosperous manufacturing sector. For example, there are hundreds of specialised markets that have spread to towns, boosted by the development of the manufacturing industry. The garment wholesale markets group and garment manufacturing industry in Humen town have promoted each other symbiotically, resulting in Humen becoming one of the largest clusters of the garment sector.

Dongguan is also famous for having the densest network of hotels’ groups in China. The numbers of five star hotels are listed as being the fifth highest in number in the country,

next to Beijing, Shanghai, Guangzhou and Chongqing. Its three star hotels or above have rapidly increased from 30 in 2000 to 63 in 2005. This reflects Dongguan's booming economic development after China's accession to the WTO. However, after the global financial crisis in 2008-2009, and following China's anti-corruption crackdown and CCP guidelines of streamlining the bureaucracy and cutting waste and extravagance since 2012, the hotel and catering industries have slowed down. In 2010, there were 82 three star hotels or above in Dongguan, and the number dropped to 75 in 2012 (DGBS, 2013).

In the manufacturing sector, Dongguan's private investment has agglomerated in traditional labour intensive industries, such as garment and accessories, furniture and hardware, being the suppliers of overseas OEMs/ODMs. Overall, both local manufacturing and service industries in Dongguan have great dependency on overseas investment and TNCs—private firms have rarely stood alone without the demands created by TNCs. Compared with the private firms-oriented Wenzhou model, which is more independent and aggressive in spreading their network throughout China, Dongguan's private investors are more conservative and risk averse, namely, lacking innovation and entrepreneurship. As discussed before, the overseas investment in Dongguan is mainly engaged in the processing trade, which has weak embeddedness due to its easily replaceable characteristics by other regions. Owing to its attachment style, the development of private firms in Dongguan is unbalanced and vulnerable. As suppliers of overseas OEMs/ODMs, private firms are not able to exploit domestic and international markets, a relatively simple operation that has resulted in a slow transition and adoption of modern property rights and governance mechanisms. Most domestic private firms the author met during fieldwork in Dongguan in 2012 and 2013 have been supported financially by families or friends, and thus limit to middle and small sizes. Compared with the closely linked and organised Taiwan businessmen associations, relationships

among private firms are looser. Most local trade and industrial associations are organised and controlled by local governments. The main function of these associations is more likely to carry out the plans regulated by the governments, instead of offering shared information and organising joint action in response to external change, such as antidumping pleading in overseas markets.

4.5 The Case of Dongguan through the Lens of the GPN

As a predominantly agricultural area before the period of reform and opening, Dongguan has promoted its economic take-off and industrialisation by relying on overseas investment in the manufacturing sector. It has gained such investment through encouraging the relocation of TNCs (originating in Hong Kong and Taiwan, and other Asian NIEs in particular) resulting in the emergence of new international manufacturing activity. Dongguan has furthered its participation in global divisions of labour as it has boosted its industrialisation. As elaborated in previous sections, Dongguan is one participant of the new East Asian triangle trade model—it imports intermediate products from its Asian partners, Japan, Korea, Taiwan and ASEAN, processes and assembles them into finished goods, then exports to American and European markets directly or through Hong Kong. The electronics industry in Dongguan is the most significant example.

Through the lens of the GPN, the rise of Dongguan as a “work factory” has been strategically coupled with the needs of lead firms and partners of GPNs. To meet their strategic needs, Dongguan has developed its local assets in terms of favourable prices of labour and land resources, geographical proximity, enabling infrastructure facilities, and

massive supporting manufacturers. Due to the presence of these local assets, export-oriented TNCs have become territorially embedded in Dongguan. However, it should be noted that strategic coupling is a dynamic process by which relational assets are matched to the strategic needs of lead firms in GPNs. And TNCs as leaders and core participants of GPNs are even more heavily characterised by network embeddedness. Therefore, as suggested by Henderson et al. (2002) and Mackinnon (2012), the positive effect of embeddedness in a particular place cannot be taken for granted over time, and it may be eroded as competitive pressures prompt firms to invest in other, often less costly, locations. This has been demonstrated in the case of Firm D's decoupling: it stopped its expansion in Shijie town where the Taiwanese firm set up its first groups of manufacturing plants. On the one hand, this was attributed to the firm's redistributing investment to inland provinces that offered cheaper labour and land resources, or the YRD area which had more scientific and technological talent available. On the other hand, profits from desktop computer products and accessories, the main business of Firm D in Shijie, had declined. It can therefore be inferred that Dongguan's regional assets have become generic over time in contrast to their distinctiveness during an initial phase. Comparing with inland provinces of China and late-developed Southern Asian countries, Dongguan no longer has a marked edge in low production cost. Moreover, its geographical location, convenient for exporting to overseas markets, is not significantly superior as China's domestic market has been regarded as one of the most promising targets by TNCs.

This therefore leads to the question of how Dongguan can capture value in the process of coupling with dynamic GPNs. The issue of value capture highlights issues of firm ownership and control, and is decided on by the power of key agents within GPNs (Henderson et al. 2002; Mackinnon, 2012). The dominant group of firms in Dongguan is

OCIEs and FIEs, most of which are branch plants of TNCs or suppliers of overseas OEMs/ODMs engaged in lower value-added and labour-intensive production. Their headquarters in home countries thus have strong control of value distribution. The phenomenon of *domestic goods re-import* proves this. Furthermore, it can be deduced that there is an asymmetrical power relationship between the dominant TNCs and local governments in Dongguan, in particular, between the township and lower level governments that rely on earning profits from the introduction of TNCs (shares of revenue retention collected from processing firms, renting land for factory plants and dormitories, and promoting service industry catering to the non-native population).

The prefectural government of Dongguan has started a top-down intervention in restructuring the prevalent export-oriented development since 2000, and enhanced it since 2006. However, the global financial crisis has disrupted Dongguan's industrial upgrade planning. The volatile macro policies of national and provincial governments have usually led to a dilemma for local governments, which have more concerns with direct profit-making ways. It has thus intensified tensions among Dongguan's upper and lower levels of governments. Non-unified local institutions therefore have been less capable of exercising power, contrasting with the powerful control of TNCs. TNCs have significant bargaining power within export-oriented production networks as globalisation and liberalisation have expanded to more late-developing countries and regions. Dongguan nevertheless has insufficient capability to enhance and capture value when it has difficulty in achieving strategic coupling with GPNs.

Chapter 5 The Industrial Development of Foshan

Private-owned firm (POE)-led growth and an output focused on domestic markets stand out as the most significant difference in Foshan's economy when compared with Dongguan and other cities in the Pearl River Delta. Furthermore, the role of the government in Foshan's economic development is worthy of discussion particularly in regard to reforms of firm ownership. Such a discussion demonstrates that strong and even aggressive intervention is significantly different to Dongguan's dominance and dependency on overseas investors. Section 5.1 introduces the economic development of Foshan and the role of government, which consisted of the commercial tradition and industrial heritage of Foshan at the beginning of opening and reform, and the ownership reform of the 1990s that transformed most public-owned firms to private-ownership. Section 5.2 focuses on the development of clusters of Foshan, characteristics that made it a specialised township. It then discusses in more detail characteristics of Shunde's economy. Two different types of clusters that are in different stages of development are presented in this section: the regional furniture industry cluster; the regional innovation system (RIS) of the household appliance industry. Finally, section 5.3 summarises and delivers a discussion within the theoretical framework of GPN.

5.1 The economic development of Foshan and the role of government

5.1.1 The start of reform and opening

The prefectural city of Foshan, locates in the northern part of the PRD area and adjacent to Guangzhou, has a total area of 3797.72 square kilometres. It has a population of 7.30 million of which 3.82 million were registered households in 2013. It consists of five districts—Chancheng (prefectural capital), Shunde, Nanhai, Gaoming and Sanshui⁷⁷, and 32 towns and street communities⁷⁸.

Situated in the hinterland of the PRD area, Foshan has neither abundant natural resources, nor is subject to political priorities. However, 1,300-year old Foshan is renowned for its handicraft industry and trading, such as pottery, silk-weaving and metal-casting. In the records of the department of agriculture, industry and commerce, of the Republic of China in 1921, there were 363 reeling mills in China, of which 136 were in Guangdong, and 86 in Shunde (all were mechanised). There were about 60,000 manufacturing workers in Shunde, 10,000 more than the total number of manufacturing workers in Shanghai and Tianjin, both of which were also famous for their textile industry and foreign trade at that time (Lin, 2009). The heritage of Foshan in business and manufacturing allowed it to rise up rapidly once opening up and reform began. Its traditional industrial heritage has turned into a current industrial base, which makes Foshan become competitive in traditional labour-intensive industries such as electric appliances, ceramics, furniture, textile and garments.

⁷⁷ Since the establishment of the PRC in 1949, the counties of Shunde, Nanhai, Sanshui, Gaoming have been under the jurisdiction of prefectural Foshan. During the 1990s, Shunde, Nanhai, Sanshui and Gaoming were successively set as county-level cities, but were still under Foshan. In 2003, the urban district and Shiwan district of Foshan, and Shunde, Nanhai, Sanshui and Gaoming were redistricted as Chancheng district, Shunde district, Nanhai district, Sanshui district and Gaoming district. In 2011, Shunde district was confirmed as the first pilot county-level district directly under the jurisdiction of the provincial government. Shunde has been awarded with the privilege of prefectural administration and finance. Under the arrangement, financial allocation will be made directly to Shunde by the provincial government, without transferring through prefectural government of Foshan. The CCP's party committee, discipline inspection committee, court of justice, procuratorate, and the administrative system of planning, statistics, audit, social security fund and provident fund, and the administration of Foshan Newcity (the expected CBD of Foshan, and also where Sino-German Industrial Services Zone are located) are still under the jurisdiction of Foshan.

⁷⁸ The street community (or sub-district office) is an administrative division of an urban area, equal to a town within the same city. Under the street community there are a few community residents' committees and village committees (both are the smallest administrative units). A number of previous towns have been reorganised as street communities in recent years, reflecting the urbanisation of Foshan.

Under the restricted *hukou* (household registration) system, agricultural surplus labour was normally released to local manufacturing industries, which consisted of TVEs. These firms in Foshan were originally run and set up by communes and brigades after the people's commune movement started in 1958. Suffering from slow development during the Cultural Revolution, the commune and brigade which ran firms responded to the central and provincial governments' call in 1975 for "running industrial firms to boost agricultural development". In the early 1980s, firms run by communes and brigades were substituted as TVEs after the abolition of the commune system. Most of these TVEs grew within the context of village markets and rural specialised markets, with products mainly sold in local and other domestic rural markets. The opening up and reform opened vast space for the development of domestic consumer markets, thus creating opportunities for the TVEs.

Since the beginning of reform, Foshan prefectural government continually delegated its administrated power to lower governments. TVEs in Foshan were given autonomy of recruiting and product pricing (except state-controlled commodities). Hence, the TVEs operated more flexibly and were more market-oriented than SOEs. Based on an earlier rural industrialised base in the 1970s⁷⁹, TVEs in Foshan began to produce electric appliances, like electric fans and rice cookers which were the most popular and in domestic markets and experienced the most shortages. The TVEs also developed their traditional advantageous industries to respond to market demands. For example, Shiwan town had thousands of years of history of making stoneware. In the early 1980s, the town

⁷⁹ China's rural industrialisation began with an expansion of county-owned SOEs after 1968. In the early 1970s, rural industries mainly run by commune and brigades focused on 'the five small industries'—cement, chemical fertilizers, iron and steel, and machinery and power. Although this did little to raise living standards in the short run, it helped to provide the inputs necessary for the expansion of irrigation networks, and the construction of infrastructure necessary to begin farm mechanization (Bramall, 2008).

introduced the first automatic production line of architectural ceramic and sanitary ware to cater to an increasing demand for home-living quality. Foshan quickly became China's largest distribution centre of architectural ceramic and sanitary ware.

From the early 1980s, the introduction of overseas Chinese investment to Foshan greatly improved manufacturing technology, offering more opportunities of "learning by doing" for TVEs. Influenced by overseas Chinese firms, local TVEs had begun to focus on both overseas and domestic markets, which also pushed them to raise production levels to satisfy market access requirements. In addition to importing advanced equipment and technology from abroad, Foshan's TVEs hired engineers who worked for SOEs and research institutes in neighbouring Guangzhou as part-time consultants to improve their technology and management. This innovative employment mode, which was called "engineers working on Saturdays", played a significant role during Foshan's industrial start-up stage. As their production became more sophisticated, Foshan's TVEs began to take OEM orders for TNCs and increasingly participated in production networks. However, unlike local firms of Dongguan that were driven by foreign investors, most industrial firms in Foshan have depended on emerging domestic markets, instead of exporting products to overseas markets. TVEs that originated from specialised markets in particular, have had strong interactions with specialised markets that gave a timely snapshot of domestic consumers' demand. These were regarded as the most important barometers for local firms, at least initially, to decide what to produce and in what quantity and to what quality. During this process, TVEs had established a well-developed national distribution network, which enriched their competitiveness in terms of direct market access, and kept a domestic market-oriented strategy.

5.1.2 The ownership reforms in Foshan and Shunde

Most TVEs had been financially supported by bank loans guaranteed by local governments in a typical government-oriented economy, albeit one where the firms were granted more administrative autonomy. Although TVEs had much harder budget constraints than SOEs, they still received much softer constraints than FIEs and POEs. It was noticeable that local governments⁸⁰ had obtained dramatic autonomy concessions and fiscal revenue due to decentralisation. For example, the fiscal revenue of the sub-prefectural Shunde and Nanhai⁸¹ accounted for more than half of the total revenue of Foshan in 1992 (FSBS, 1993). Local governments tasted success created by TVEs, and therefore regarded increasing input in new industrial projects as the most significant embodiment of economic growth. In order to maintain fast economic growth on which the promotion of local officials is based, local governments with more money were more likely to subsidise or offer more bank loans to local TVEs. During the period of 1978-1985, industrial loans lent from the banks of Shunde had an average annual growth rate of 53.2 per cent. The amount of loans that went to industry was about 1.83 billion *yuan*, accounting for more than 40 per cent of total bank loans (Xu, 2002).

However, it is worth noting that the initially favourable market conditions enjoyed by TVEs had gradually dissolved since the late 1980s. The continuous entry of a large number of TVEs and other types of firms intensified the competition as China furthered its opening up. The shrinking market opportunity and eroding profits have reduced the capital accumulation capability of TVEs and pushed them to increasingly rely on credit financing. In this circumstance, the opportunistic financial expansion was undoubtedly

⁸⁰ Local governments here include sub-prefectural-, county- and town-levels.

⁸¹ Shunde and Nanhai were sub-prefectural level cities in their own right under the prefectural government of Foshan until 2002 that they became two of Foshan's districts.

led to a pattern of non-performing loans (NPLs), and the risk of bankruptcy of both firms and governments. According to the records of the Shunde branch of the China Agricultural Bank and its credit cooperatives, by the end of 1990, the NPLs created by town-owned firms accounted for 17.2 per cent of total loans, amounting to 216.63 million *yuan*; by the end of March 1993, the percentage had grown to 35 per cent, amounting to 969.50 million *yuan*, (Xu, 2002).

As the supervising authority⁸², local governments would ultimately bear the unlimited liability for their TVEs. Although they benefited from being part of TVEs early on, local governments had strong incentive to initiate ownership reforms to get rid of the unlimited liability they held for their TVEs and avoid the threat of governments' bankruptcy. Shunde government with highly leveraged TVEs had taken the lead in carrying out reform of TVE ownership since 1993. Compared with national SOEs ownership reforms (later started in 1997) that aimed at "grasping the large and letting go of the small"⁸³, Shunde government adopted a more radical approach, working hard to limit government investment and privatise almost all of its public-owned firms. The government sold its most profitable TVEs before selling those that operated at a loss, a strategy government officials called "marrying off the prettiest daughter first". Considering the close relationship between government officials and local residents, the government claimed to give priority to foreign and out-of-Shunde residents. However, most restructured firms were finally owned and run by local residents given their

⁸² During 1980s, a considerable number of TVEs in Foshan were in fact contracted by individuals who were usually the leaders of communes and brigades. Referred to the household-based contract system in agricultural production, TVEs had the rights to arrange their production and profits as long as they turned in a part of income in accordance with the regulations of the governments. However, the firms were literally owned by collectives, and local governments and carders still had a strong say, or even the final say on the production plan and the profit distribution.

⁸³ The strategy of China's SOEs restructuring that initiated from 1997 aimed at "grasping the large and letting go the small". It meant that the state retained direct ownership over the large-scaled SOEs, mostly in strategic, heavy and "upstream" sectors of the economy, and pushed them into competitive groups mainly by listing on domestic and international stock exchanges; converted the ownership of small- and medium-sized SOEs to insiders, management and employees by selling the public shares. The number of SOEs had decreased from about 110,000 in 1997 to 64,700 in 1998. By 2006, the number of industrial SOEs was down to 24,961 (including state-owned and state share-holding firms) (Poon, 2009).

familiarity and direct engagement in the firms' operations. For the firms with assets that approximately offset liabilities, the government normally took the approach of selling them with a "zero-price" or a symbolic payment with little expense to managers and employees (hereafter: insiders). For firms that were insolvent, the government held debt by suspending accumulating interest, and leased plants and equipment to a new limited liability company usually invested in by the insiders. But the new company would still need to pay back debts in instalments and cover the wages of retired and laid-off workers. Besides this, the government also transformed the ownership of unprofitable or low-profit firms by means of mergers, auctions or bankruptcies.

As noted above, most of the restructured TVEs were transformed to joint stock limited companies or limited liability companies⁸⁴ at the beginning of the reform period. In most cases, the insiders owned a majority of the total share of the firm and share-holdings among them differed on the basis of paid subscriptions. Ownership of firms that were still held by collectives (usually at village-level or below) was not freely tradable, but shares were allowed to be transferred among the collective members. For both of these firms, a representative form of governance was usually employed based on "one-person-one-vote" or "one-share-one-vote"—what I will call "egalitarianism"—or a combination of both voting principles. Compared with public ownership, this approach guaranteed that benefits and responsibility were evenly divided among each participant. What was more important was that it directly tied individual income to performance, which offered a significant incentive for production. However, after a period of development, the negative side of "egalitarianism" was brought out in the restructured firms. The initial

⁸⁴ According to the Company Law of the People's Republic of China (the edition that entered into force as of July 1, 1994), a "joint stock limited company" or "limited liability company" is a firm legal person. In the case of a joint stock limited company, its total capital shall be divided into equal shares, shareholders shall assume liability towards the company to the extent of their respective shareholdings, and the company shall be liable for its debts to the extent of all its assets. In the case of a limited liability company, shareholders shall assume liability towards the company to the extent of their respective capital contributions, and the company shall be liable for its debts to the extent of all its assets (China.org.cn, 1994).

consensus among employees and management had increasingly produced notable changes, especially as the firm started to turn a profit. The employees, who were the shareholders as well, were usually more concerned with their annual bonus, rather than the capital increment of the firm, which required a long-term effort. In particular, the principle of “one-person-one-vote” often resulted in too many competing interests represented. In order to break a deadlock of egalitarianism on the distribution of interests, ownership reform was thus pushed further towards privatisation (or the limited liability that was concentrated in relatively few decision-makers concentrated) mainly by management buyout.

By the end of 1996, 1,001 sub-prefectural- and town-owned firms had completed their ownership transformation. The government shares of the sub-prefectural and town-level firms had dropped from 90 per cent to 62.4 per cent, and the shares of foreign and domestic individual investors accounted for 37.6 per cent. There were 32 large-scale public-owned firms the annual outputs of which were valued at 100,000 *yuan* respectively, before the ownership transformation. Of those that were funded solely or held by government after that the number decreased to 15; ten transformed to domestic joint ventures or joint stock firms; four transformed to Chinese-foreign joint ventures or cooperatives; and three were listed on the stock exchange. To illustrate one successful case, in 1993 the electric appliance manufacturer *Midea* transformed from a TVE to an employee shareholding firm, and then went public on the Shenzhen stock exchange as the first listed TVE in the country. In 2001, Shunde’s government sold its remaining shares to *Midea*’s management with a lower price than the company’s net assets. *Midea* thus completed a management buyout, and transformed into a wholly private-owned firm. With the relative flexibility of private ownership, *Midea* was able to utilize mergers and acquisitions, develop transnational cooperation with Japanese (Toshiba, Sanyo, etc.) and

Italian (Merloni Elettrodomestici Span) partners to launch new products and expand operations in new markets. It employed 135,000 people in China and abroad, generating over \$16 billion in revenue in 2012. There are also, however, cases of failure. For example, another electric appliance manufacturer, *Kelon*, was once a successful TVE in Foshan's Rongqi town by the early 1990s. From its establishment, the town government maintained control of *Kelon*. After its funding leader, who was also holding an official position in the town government, retired at the official retirement age, *Kelon* was subject to ownership reconstruction. When its new chief executive officer stepped down due to disputes centring on ownership, the company's performance collapsed and township officials were unable to revive its fortunes.

In order to secure enough incentives for entrepreneurs to increase both profit and productivity, the institutional restructuring of government was therefore closely tied to the success of ownership restructuring. In 1993 when firm ownership reforms started, the Shunde government began to carry out institutional reforms. It downsized the government and party departments from 49 to 29, and staffs employed by government and party departments were cut from 1,400 to less than 900. 14 bureaus and committees in charge of agriculture were reduced to four; several bureaus in charge of industry were merged into one that provided administrative support and services (Yang, 2004). In 1997, Shunde's government declared that all government departments were not allowed to run businesses and firms, completely separating government administration from the management of firms. The reform allowed the government to take a hands-off policy toward the economy, focusing on enforcing the law and creating a fairer business environment. In 2009, as the pioneer of China's "super ministry system reform" (involving the consolidation of the state's bureaucracy), Shunde slashed the number of government departments from 41 to 16, which made decision-making and administration

more efficient (The Economist, 2014).

After the ownership reforms, Shunde's government has transformed from a direct participant in the economy, to a planner and public service provider. In light of earlier simple innovations through imitation of overseas products was insufficient to cope with fierce competition within a global context, governments, from provincial and prefectural levels to township level, highlighted the need to upgrade for firms. Because of a lack of resources in higher education and advanced research, Shunde's government has spent billions of *yuan* of funds in total in the past ten years to introduce domestic and overseas leading universities to establish research institutes in Shunde, and has collaborated with firms directly. In order to enhance its traditional competitive industries, Shunde's government has actively promoted cooperation with competitive SOEs and FIEs, and local firms. Since 2009, Shunde has cooperated with the state-owned IRICO group, which is the largest colour picture tube manufacturer (for televisions) in the world, to establish OLED and AMOLED production lines in Shunde. Their products are expected to apply to electrical household appliances produced by local firms. Moreover, the government has invested over 5 billion *yuan* to develop the "South Wisdom Valley" as a large-scale incubator, inviting and subsidizing research institutes, and medium- and small-sized technology firms to focus on the R&D of electronics, high-tech manufacturing, new materials and energy, biopharmaceutics, and agriculture. Shunde's government has encouraged local leading firms to invest in foreign technology firms by way of merge and acquisition with the subsidies of up to 100 million *yuan* (Ouyang, 2013). Shunde's government has also set up an incentive fund and passed supportive policies to bring local firms to market with new initial public offerings (IPOs). The firms that go public successfully will be awarded a bonus of up to 10 million *yuan*. There have been 16 local firms listed on the domestic and Hong Kong Stock Exchanges so far in

2015 (Liu, 2015).

Shunde's ownership reforms were not unique to Foshan. Reform was carried out throughout the whole prefectural area during the 1990s. Reform has clarified property rights and responsibilities between government and firm, and created harder budget constraints for firm operations. It has boosted a large number of local private firms, and introduced modern corporate management and production techniques to replace the small village-run workshop mode. After a decade of reform, on average there is now one private firm for every 20 Foshan residents. In 2012, the POEs of Foshan grew twice as fast as the remaining public-owned firms (The Economist, 2014).

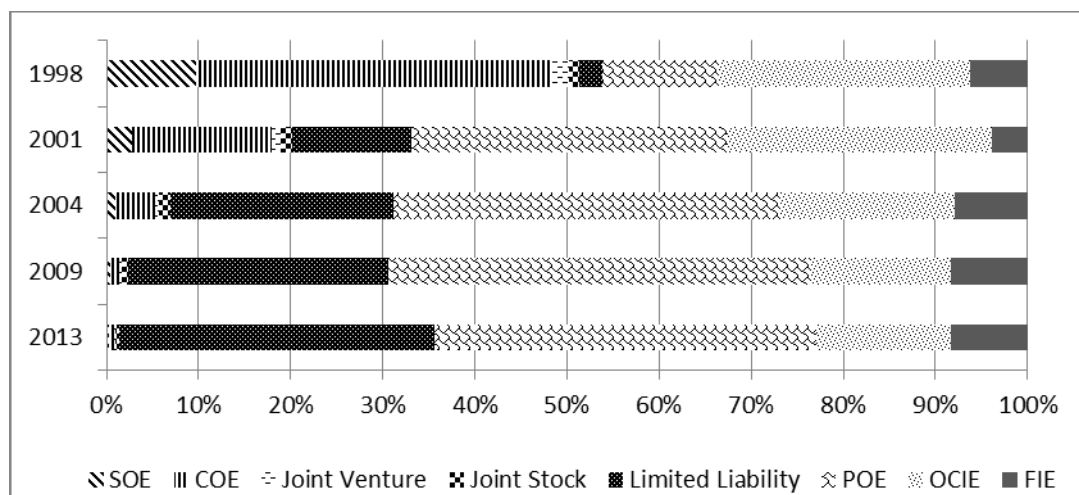
Figure 5.1 shows shares of SOEs and COEs in significant decline during the period of 1998 and 2012, while the shares of POEs and Limited Liability companies rose. Shares in joint ventures and joint stock firms had almost disappeared. In the beginning of the ownership reform period, public-private partnership and employee shareholding were the most common ways to restructure firms in the form of joint ventures or joint stock firms. The restructured firms then went further to management buyouts and share concentrations as privatisation developed, which manifested as POEs or limited liabilities. At the same time, the share of overseas Chinese-funded firms decreased, which was possibly due to the reduction in preferential policies. In fact, and notwithstanding an absence of confirmatory statistics, a large number of OCIEs were invested in by overseas Chinese businesspeople of Foshanese origin, who changed their identities back to domestic residents as Chinese government leveraged favourable policy to domestic firms in recent years.

Figure 5.2 shows shares of industrial output value of Foshan's public-owned firms

(including SOEs and COEs) have been in a downward trend. Their total share has been under five per cent in the last decade. By contrast the shares of POEs and limited liability companies have been on an upward trend especially following ownership reform. In the past few years, their total shares contributed to over half of Foshan's total industrial output value. The share of OCIEs accounted for the largest share during the late 1990s, but have fallen quickly in the last ten years. Similarly to Dongguan, OCIEs in Foshan were mainly engaged in export-oriented manufacturing in their early years, such as textile and garments, footwear, toys, and electric appliances. With the continuing rise of labour costs in Foshan, overseas Chinese investors gradually shifted their labour-intensive workshops to inner regions. Overseas Chinese investment in Foshan has now transferred to the service industries, such as catering, hotels, real estate and finance.

Figure 5.1 Shares in Foshan's firms above designated size with different ownership

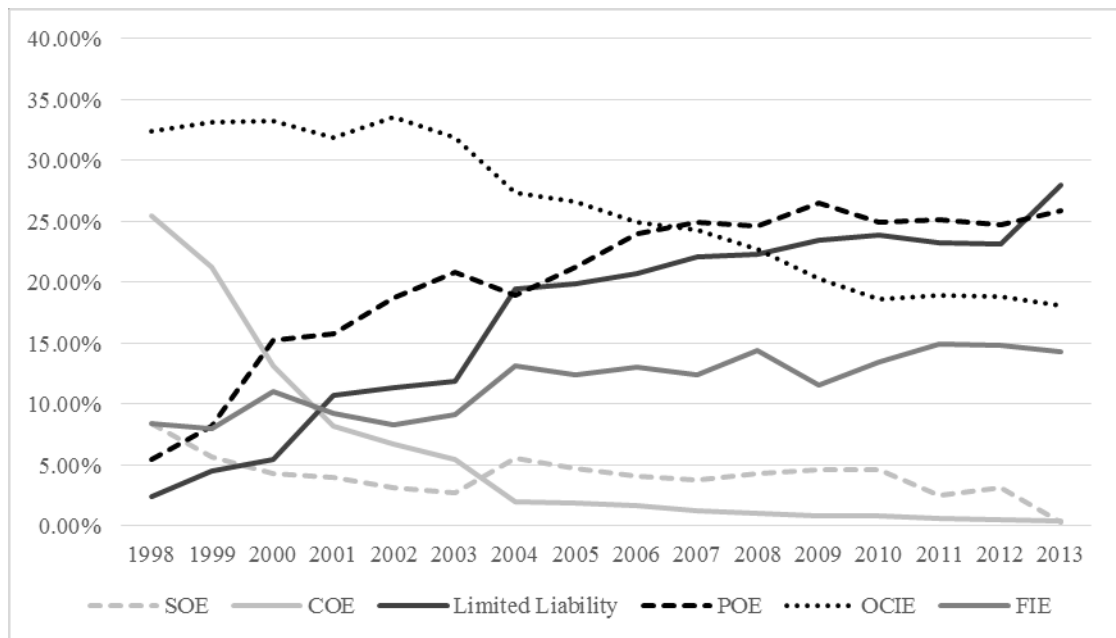
Unit: %.



Source: Compiled by author from *Foshan Statistical Yearbook*, various years.

Figure 5.2 Shares of industrial output value of Foshan's firms above designated size with different ownership, 1998-2013

Unit: %.



Source: Compiled by author from *Foshan Statistical Yearbook*, various years.

Compared with the significant decrease in shares of OCIEs, shares of FIEs represent a slowing rise. It is likely to reflect a new trend of Foshan government's strong intention to introduce large-scaled TNCs in recent years, regarded as a great push for local industrial upgrading. The developing automobile industry, for example, is a significant feature in Foshan's government-led upgrading strategy. In the early 2000s, the provincial capital Guangzhou introduced the joint ventures of the SOE Guangzhou automobile Group and Japanese Honda and Toyota, and the joint venture of the SOE Dongfeng Motor Corporation and Japanese Nissan⁸⁵. Foshan has accordingly developed supporting clusters of automobile parts and accessories in neighbouring Guangzhou. In particular, Nanhai district has hosted a cluster of automobile producers and suppliers, mainly

⁸⁵ Guangzhou Automobile Group Co., Ltd. is an SOE founded in 1997 that became a holding of Guangzhou Automobile Industry Group (GAIG) in 2005. It set up JVs with Toyota, Honda, Nissan Fiat, and Mitsubishi. All of the plants of GAIG-Honda, GAIG-Toyota, and Dongfeng-Nissan mentioned above are located in Guangzhou.

consisting of two car manufacturing plants owned by SOE Beiqi Foton⁸⁶, the restructured POE Nanhai Foday⁸⁷, and a group of suppliers of Guangzhou automobile manufacturers. In 2010, Foshan won the project of First Auto Works (FAW)-Volkswagen⁸⁸ new plant, beating its rivals Dongguan and Zhejiang province. The new automobile production plant is located in Nanhai and is planned to have the first plant completed in 2014. It is expected to promote the technological level of Foshan's local automobile manufacturing. Besides, Foshan is building a Sino-German Industrial Services Zone in Shunde, which is expected to be completed in 2017. The zone is planned to be dedicated to the services that cater to demands of high-end manufacturing, including the establishment of the institute of advanced industrial technology with Germany Fraunhofer-Gesellschaft (Europe's largest application-oriented research organization) and the Chinese Academy of Science (one of the most prestigious science institutions in China), the introduction of special intellectual property courts and related legal services, and a Sino-German occupational training school. It demonstrates that the targets of these foreign investment projects are very different from the TNCs settled in Dongguan. For example, the First Auto Works (FAW)-Volkswagen plants are going to produce the latest products sold in China's domestic market, especially the region of South China. It is claimed that their planned products will include new energy vehicles, which require high capability R&D, production and marketing. The new production lines are expected to drive the growth of local competitive industries, such as auto parts, lighting, steel products and plastic

⁸⁶ Beiqi Foton Motor Co., Ltd. was a state share-holding company. It was founded in 1996 and was headquartered in Beijing, China. It is China's commercial vehicle manufacturer with most vehicle models and the largest production scale. In 2006, Foton and the US-headquartered engine manufacturer Cummins Inc. set up a 50-50 joint venture company to produce light-duty diesel engines; in 2010, Foton and the German multinational automotive manufacturer Daimler AG formed a 50-50 joint venture for the production of medium- and heavy-duty trucks in China.

⁸⁷ The origin of Nanhai Foday was the Nanhai branch plant of the SOE Nanjing Automobile affiliated company which was set up in 1988. It had suffered losses during 1988 to 2000 and was one of the 16 biggest loss-making firms of Guangdong. In 2001, it became a private-owned firm after ownership reforms. After a three-year rectification, it was listed as one of the top 100 POEs of Guangdong in 2004. Foday is a manufacturer of both vehicle and automobile parts, and it is a supplier of Beiqi Foton.

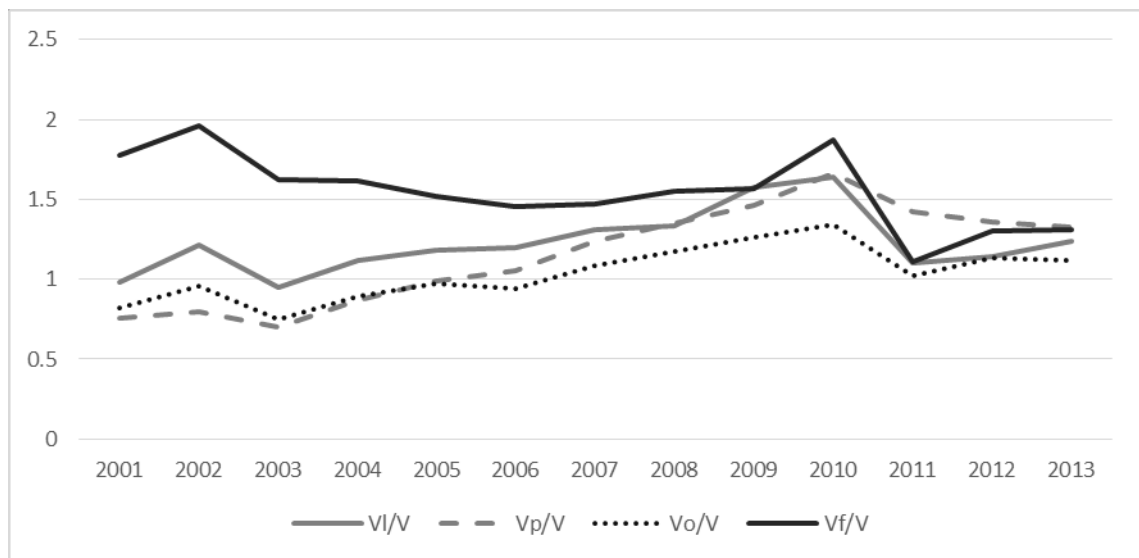
⁸⁸ FAW-Volkswagen Automobile Co., Ltd. is a large-scale joint venture passenger car manufacturer between the centrally-administered SOE FAW Group Corporation and German TNC Volkswagen AG, with share held of 60 per cent and 40 per cent respectively. It was established in 1991 and is headquartered in Changchun, Jilin province (northeastern China).

products. Moreover, the newly introduced foreign investment in Foshan is not limited to the manufacturing sector, but also engages in parts of R&D, and other related service sectors, accommodating the development strategy of Foshan firms.

Figure 5.3 displays the relative labour productivity of Foshan's main types of firm divided by ownership, including limited liabilities, POEs, OCIEs and FIEs. Almost all of the series in this figure were above one in most years during the period of 2001-2013. The significance of this is that labour productivity was higher than Guangdong's average level. Furthermore, the series of FIEs were highest before 2010, indicating that FIEs in Foshan were concentrated in relatively capital-intensive sectors, implying that they met the expectations of local governments for the introduction of technology-heavy TNCs. Domestic private-owned groups, mainly refers to limited liabilities and POEs here, presenting rising trends from the level of below one to above one, catching up with the trend of FIEs. It can be inferred that local private firms were transferring from the model of traditional labour denseness to modern capital denseness. The series of OCIEs were at the lowest level in most years during 2001-2013, which is similar to the status of their fellows in Dongguan. This shows their characteristics of low demands for technology and skills, and high labour intensity. It should be noted that almost all the series had steep drops in 2011, except POEs' relatively gentle slide. Because the manufacturing sector of Foshan is domestic market-oriented, the series does not therefore show any significant decrease as in Dongguan's case around the years of 2008 and 2009, at the height of the global financial crisis. However, this is largely because of China's big stimulus package in response to both this external factor and domestic slowdown. Its major fiscal stimulus of four trillion *yuan*, or about \$586 billion (mainly consisting of easy bank loans), determined a strong but short-termed economy rebound over two years. Nevertheless, the Chinese government has gradually halted these stimulus policies since 2010. Domestic

economic demand and growth has thus slipped again, making the series and data in figure 5.3 and figures and tables later appear to change dramatically during 2010-2011.

Figure 5.3 Relative labour productivity of Limited Liabilities, POEs, OCIEs and FIEs of Foshan, 2001-2013



Source: Compiled by author from *Guangdong Statistical Yearbook* and *Foshan Statistical Yearbook*, various years.

Note:

1. V=industrial added value (current prices, yuan)/labour employment.
2. Vl, Vp, Vo and Vf refer to the labour productivity of limited liabilities, POEs, OCIEs and FIEs of Foshan, respectively. The figure with no subscript refers to all firms of Guangdong. The category of “firms” refers to industrial firms above a designated size.

5.2 The industrial agglomeration of Foshan

5.2.1 The specialised township of Foshan

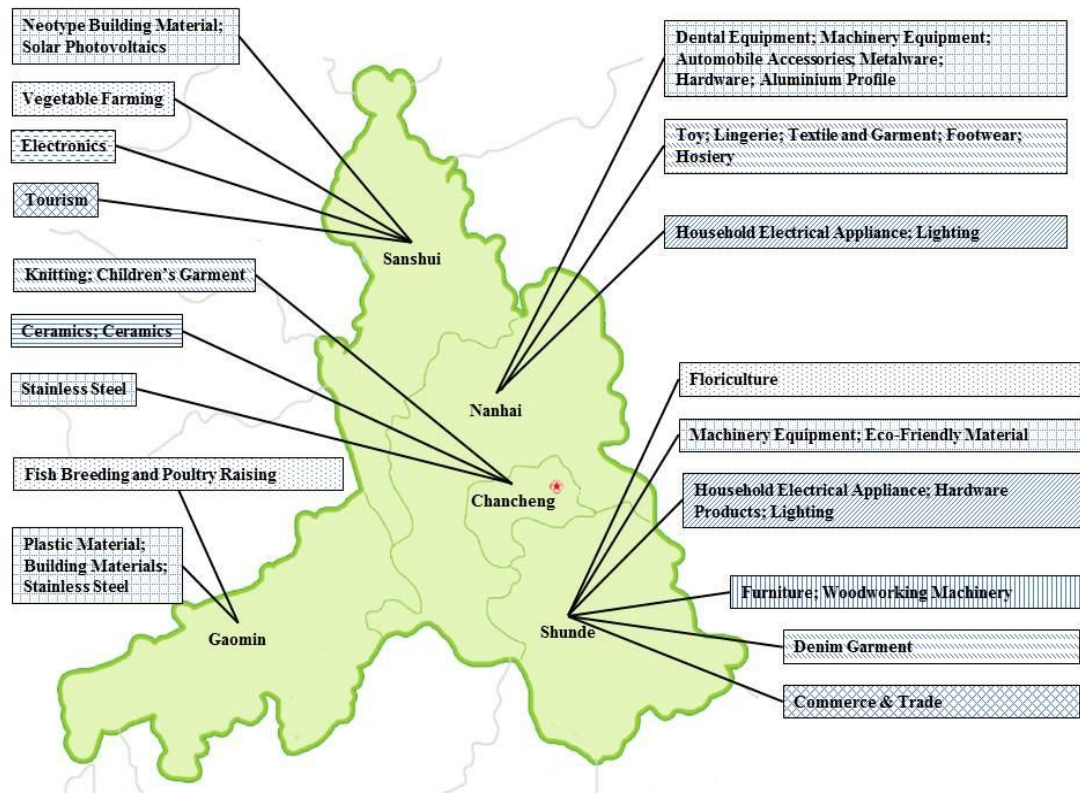
The economic development of Foshan has relied on its specialised township status. The industrial specialised distribution organised in towns integrates all the parts of the value

chain in the same region, which constituted the strongest competitiveness of Foshan. The prefectural city has 32 towns and street communities, with 41 specialised township titles awarded by the provincial government⁸⁹. All of the most developed towns with the largest GDP and industrial output values are specialised townships. A prime example of this is the 80-square kilometre-large Ronggui town with thousands of firms and an industrial output value of over 100 billion *yuan*. This town is famous for the production of household electrical appliances.

Figure 5.4 shows the distribution of specialised industries in Foshan. Compared with Dongguan, the primary, secondary, and third industries of Foshan have developed in a relatively balanced way with little overlapping. Most of the specialised townships are from the manufacturing sectors, traditional industries in particular, such as household electrical appliances, textiles and garments, ceramics, and stainless steel. The industrial agglomeration is particularly notable in the east of Foshan, which includes the three most developed districts of Shunde, Nanhai and Chancheng: Shunde focuses on electric appliances, machinery, textiles and garments, and furniture; Nanhai specialises in textiles and garments, architectural ceramics, aluminium profile, hardware products, and electric appliances; Chanchen mainly engages in ceramic products, electric machinery and equipment, plastic products, textiles and garments and metal products. This phenomenon is best summed up by the term “one village one product, one town one industry (*yi cun yi pin, yi zhen yi ye*)”, which means each village produces a single product, and each town develops a single industry.

⁸⁹ Some towns and street communities had more than one specialised industry.

Figure 5.4 Map of Specialised Township of Foshan



Source: Compiled by author based on information issued by the Guangdong Provincial Department of Science and Technology (2008) and a list of specialised townships issued by Guangdong Association for the Promotion of Specialised Township Development (2014).

Note: 1. The specialised townships of Foshan could be classified as below (indicated with different shadings in the figure):

I & ① Primary Industry;

II Secondary Industry: ② Materials and Machinery; ③ Household Electrical Appliances; ④ Electronic Products; ⑤ Textiles and Garments; ⑥ Ceramics; ⑦ Furniture.

III & ⑧ Third Industry.

Foshan's specialised township status has two bases: historical endowments, namely the traditional industrial base, such as the ceramics in Shiwan street community and Nanzhuang town, or rural markets and specialised markets. For example, before they grew into aluminium profile specialised township and furniture trading specialised townships, Dali town and Lecong town was an aluminium profile specialised market and a timber trading market respectively. The second base is overseas Chinese investment.

For example, Yanbu street community is the specialised township of lingerie manufacturing, which started from a brassiere processing factory invested by a Hong Kong businessman in 1979. These two bases have made, information and knowledge transfer quickly available through markets and local networks, which promote clusters of followers. As the industries have expanded, resources have increasingly concentrated on the most potential products and the most competitive production, and developed specialised distribution.

Most of the firms within the industrial clusters are SMEs. It is understandable that institutional factors contribute to this composition. First, most SMEs developed from TVEs that usually had smaller scales than SOEs due to limited resources. Since the private property was strictly restricted in the early stages of reform, TVEs that were owned by communes and brigades performed more flexibly and actively than SOEs. Inspired by the agricultural contract responsibility system, TVEs were usually subleased to individuals or actually run by a few selected members. These firms were gradually privatised later on. Secondly, Foshan had created a shadow market in communal land in the 1980s, in which villagers leased land to budding industrialists, contrary to national law that reserved such land for rural purposes. Many big firms eschewed these illegal lands while small firms were willing to live in the legal shadows in order to cut costs. To some extent, this grey land market promoted the rise of SMEs. Thirdly, production developed and a few large-scale firms grew, and SMEs were offered opportunities to focus on the related production of parts and units by outsourcing from large-scale set ups. In a mutually beneficial process, these firms have gradually collaborated as comprehensive production systems in turn exhibit the effects of clustering. A number of clusters have been enhanced since an increasing number of TNCs entered the PRD area. Over the last 10 years, a mass of automobile parts factories have agglomerated around

Nanhai district of Foshan since the Japanese firms Honda, Toyota and Nissan settled in neighbouring Guangzhou, and German Volkswagen had been introduced in Foshan.

During the development of clusters, two main types of relations between the firms within the clusters have formed: one continues to be SMEs-dominated so that a large number of firms have engaged in a loose production network; the other has developed into a collaborative production network consisting of a few lead firms and small- and medium-sized suppliers. In sections of 5.2.3 and 5.2.4, two cases of Shunde's furniture industry and household electric appliance industry are used to illustrate these two types of integration.

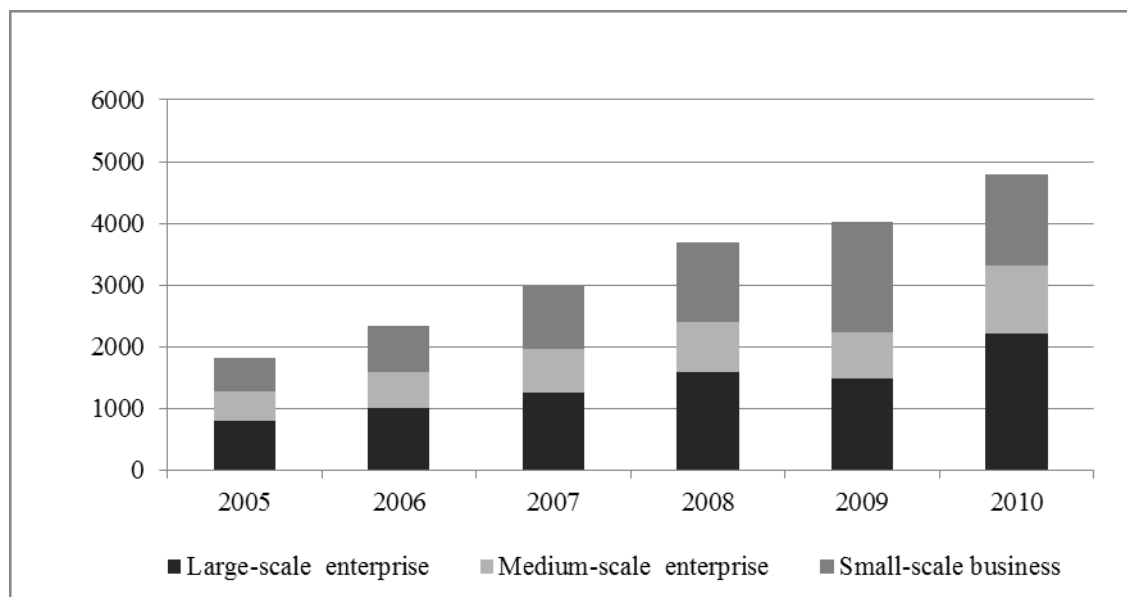
5.2.2 Overview of Shunde's economy

Shunde is the most developed district of prefectural Foshan and Guangdong. Its industrial output value is over 500 billion *yuan*, accounting for more than 30 per cent of Foshan's total (FSBS, 2013). The prosperous TVEs of Shunde evolved early on into clusters of POEs after the ownership reforms in the 1990s. The number (2,709) of domestic firms above a designated size in 2009 was more than 70 per cent of the total. Meanwhile, Shunde's economy consisted of a large quantity of SMEs (2,693 out of 2,709 in 2009) (Shunde Department of Planning and Statistics, 2010). Figure 5.5 shows that the industrial output value of SMEs and the large-sized firms was approximately an even split of 50 per cent each. In 2009, the share of SMEs was obviously bigger than larger enterprises, when the overall provincial economy suffered because of the global financial crisis. According to Shunde government statistics, the number of total industrial firms decreased by 134 compared with 2008; large-scale firms decreased from 20 to 16, its

output value share decreased from 42 per cent to 36 per cent; medium-scale firms increased from 231 to 246, its output value share remained almost the same (23 per cent in 2008 and 22 per cent in 2009); and small-scale firms decreased from 2,592 to 2,447, but its output value share increased from 35 per cent to 42 per cent. The government claimed the reason was that the demand from overseas market went down, and the export-oriented firms were heavily affected, in particular the large-scale FIEs. The mainly domestic-oriented SMEs were relatively less-affected due to stimulus policies issued by different levels of government (Shunde Department of Planning and Statistics, 2010). However in 2010, the output value shares of large-, medium- and small-scale firms returned to normal levels of 45 per cent, 24 per cent and 31 per cent respectively (Shunde Department of Planning and Statistics, 2011a). In spite of this, and unsurprisingly, it can be inferred that domestic-oriented firms were more stable when international demand fluctuated.

Figure 5.5 Output value of Shunde industrial firms divided by size, 2005-2010

Unit: 100 million *yuan*



Source: Shunde Department of Planning and Statistics (2011b).

Another feature is that most of pillar industries of Shunde are traditional industries. Table 5.1 shows the 13 manufacturing industries with an output value over 10 billion *yuan*, including the electric machinery and equipment industries, which had an output value of over 200 billion *yuan*. The furniture industry was one of the 13 pillar industries, but with the least share of total output value in 2010. Table 5.2 displays more details about the pillar industries in 2010 that include primary business income, total assets and profits, and the ratio of profits to cost. The most profitable industry was transport and communication facilities (automobiles in particular). The profit rates of the two labour-intensive industries, household electric appliances and furniture, were both below the rate of total firms above designated size. The total assets of the furniture industry in particular was small compared with other pillar industries. It indicates that the profitability of the two industries was not strong, implying capacity for sustainable growth and driving local economy was not guaranteed. The following two sections will analyse their strengths and weaknesses.

Table 5.1 The industrial firms of Shunde with an output value of over 10 billion yuan, 2005 and 2010

	Unit: billion <i>yuan</i>			
	2010	2005	Average growth Rate (the current price)	Share (the output value of 2010)
Total number of Firms above designated size	478.52	182.03	21.33%	100%
Electric Machinery And Equipment	236.98	84.97	22.77%	49.52%
#Household Electric Appliances	203.54	71.44	23.29%	42.54%

Metal Products	26.61	6.81	31.33%	5.56%
Communication Equipment, Computer and other Electronic Equipment	21.90	21.72	0.17%	4.58%
General Equipment	19.68	4.56	33.95%	4.11%
Plastic Products	19.35	7.27	21.62%	4.04%
Transport and Communication Facilities	17.30	3.85	35.04%	3.61%
Handicrafts and other products	16.12	2.58	44.27%	3.37%
Garment and Accessories, and Footwear	13.35	5.03	21.55%	2.79%
Special Equipment	12.68	4.83	21.29%	2.65%
Chemical Raw Materials and Chemical Products	12.68	5.48	18.27%	2.65%
Non-ferrous Metal Smelting and Rolling Processing	11.22	3.24	28.23%	2.34%
Textiles	11.14	5.45	15.37%	2.33%
Furniture	10.39	2.12	37.44%	2.17%

Source: Shunde Department of Planning and Statistics (2011b).

Table 5.2 The Income of Main Industries of Shunde, 2010

	Primary Business Income (1 billion <i>yuan</i>)	Total Assets (1 billion <i>yuan</i>)	Total Profit (1 billion <i>yuan</i>)	Ratio of Profits to Cost (%)
Total number of Firms above Designated Size	445.72	262.16	26.66	6.23
Electric Equipment and Machinery	221.19	139.38	11.69	5.42
#Household Electric Appliances	191.10	120.79	9.97	5.35

Metal products	24.71	12.22	1.87	8.06
Communication Equipment, Computer and other Electronic Equipment	20.63	10.21	1.00	5.08
Communication Equipment, Computer and other Electronic Equipment	20.63	10.21	1.00	5.08
General Equipment	17.19	9.71	0.84	5.15
Plastic Products	18.39	10.36	1.67	9.92
Transport and Communication Facilities	14.21	10.07	1.81	14.09
#Automobiles	11.23	8.08	1.75	18.00
Garment and Accessories, and Footwear	12.95	5.19	0.50	4.03
Special Equipment	12.21	10.98	0.88	7.76
Chemical Raw Materials and Chemical Products	12.46	8.13	1.01	8.54
Textile	10.41	6.26	0.53	5.36
Furniture	9.79	3.55	0.49	5.35

Source: Shunde Department of Development Planning and Statistics (2011b).

5.2.3 Regional cluster—furniture industry

Shunde is well-known as one of the largest furniture wholesale market and distribution centres in the world. However, until the end of the 1970s, a sofa was a rare piece of furniture for most people in Shunde. In Longshan commune, Longjiang town, Shunde, a farmer named Chen (family name) was given a set of sofas by his relatives in Hong Kong. All of Chen's family members and neighbours were deeply impressed by the comfortable sofa. Chen took the sofa apart on a whim, and found its structure was simple and the raw materials were available locally. He began to produce sofas at home and displayed them along lay-bys of National Highway 325. People liked his sofas straightaway, and technology and marketing information necessary to develop an industry based on the sofas was soon transferred between the farmers of the commune. They formed a number of family workshops to produce sofas. Longjiang's fame as "land of the sofa" spread far and wide, turning a section of National Highway 325 by Longjiang into a large-scale sofa market. Using different materials, such as solid wood, wood-panels, leather, glass, and metal, production in Longjiang grew to include mattresses, wardrobes, tables, and chairs. Office and hotel furniture were added to the list, thus diversifying product lines. Having experienced ownership reforms in the early 1990s, more firms, especially POEs, started to enter the furniture industry which was seen to be one of great potential. ISO 9000 (quality management systems developed and published by the International Standardisation Organisation, short for ISO) was introduced into production, greatly improving the quality and competitiveness of Longjiang furniture, which came to be widely sold in domestic and Asian markets. By 2014, there were 2,600 furniture-manufacturing firms in Longjiang, or one of every five furniture-manufacturing firms in the country, being run by residents of Longjiang. There were more than 3,000 furniture material and accessories stores in Longjiang; the number of swivel chairs and

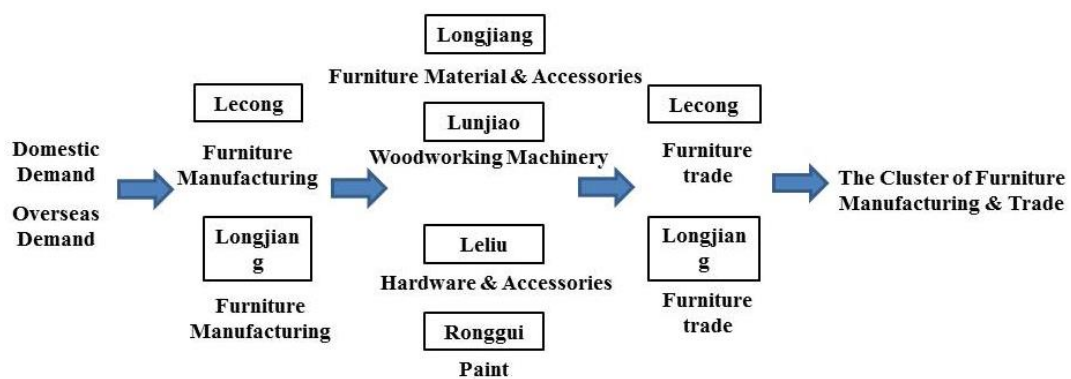
sofas produced in Longjiang accounted for one-sixth of the national total (Shunde Furniture Design Institute et al., 2014).

The thriving furniture industry has promoted a related production and service industry in Shunde. Lunjiao town, near National Highway 105, is well-known for its manufacturing of woodworking machinery. Like the development of furniture in Longjiang, the origin of the woodworking machinery industry came from the invention by three workers from Lunjiao wooden cooperative, namely a simple multi-purpose woodworking machine assembly of electric motor, belt and connecting rod. This product was widely popular and greatly improved the efficiency of production by applying mechanised production, thereby replacing manual production in the 1980s. In 1994, Lunjiao township government moved all wooden machinery workshops and factories to Xinmin Industrial and Trade Park along National Highway 105. Benefiting from the development of the furniture industry in neighbouring regions, the park gradually formed the mode of “shop in front, factory at rear”, becoming China’s biggest production and distribution centres of woodworking machinery. In the late 1990s, the newly established Lunjiao Woodworking Machinery Chamber of Commerce began to host the annual international woodworking machinery exhibition. Lunjiao has become the most important woodworking machinery market of China. It has also been well-known for holding annual international exhibitions supported by the local chamber of commerce and government. According to a report by the chamber of commerce (Qi et al., 2010), about 50 per cent or above of national woodworking machinery exports were facilitated by Lunjiao’s specialised markets in recent years.

The Longjiang-Lecong section of National Highway 325 claimed to be the biggest furniture distribution centre in the world. The town of Lecong, adjacent to Longjiang

town, has a five-kilometre long street specialising in furniture sales, displaying thousands of pieces of furniture, gathering more than 1,300 furniture manufacturing firms and 6,000 furniture and materials and accessories sales stores. The town's furniture design institute asserts that half of the population in the town is engaged in the furniture and related industries, the tax revenue of the industry contributed to half of the total tax revenue of the township (Shunde Furniture Design Institute, et al., 2014). Working in concert with quality improvement targets of furniture manufacturing firms, the furniture sales firms began to develop wholesale and retail markets respectively for products with different positioning. Since 2000, exclusive stores have been increasingly established for the promotion of high-end furniture manufactured by Shunde firms. In addition to markets and stores, Lecong and Longjiang have held annual exhibitions of furniture and related products since late 1990s, drawing over 500,000 visitors from all over the world every year.

Figure 5.6 The furniture cluster of Shunde



Source: compiled by author.

Figure 5.6 shows the distribution of the furniture cluster in Shunde that covers all parts of production and sales. The manufacturing parts are constituted by the production of furniture, and material and accessories in Longjiang, woodworking machinery

production in Lunjiao, paint production in Ronggui, hardware and accessories production in Leliu. The cluster has boosted supporting service industries in Shunde, which include logistics, exhibition services, catering and accommodation services, and real estate. For example, the abovementioned exhibitions and sales of furniture and related products in Longjiang and Lecong are well organised, attracting a large number of domestic and overseas clients almost every year. The efficient logistics also mean that furniture manufacturing and supporting parts in Shunde are no more than a 30-minute drive away from each other. All of these factors constitute a well-developed cluster of furniture industry, which is one of the most essential parts of Shunde's competitiveness. Now there are over 5,000 furniture manufacturing firms, 10,000 furniture and material and accessories sales stores in Shunde. The furniture industrial working population has been claimed to be more than 200,000, of which about 60 per cent were migrant workers and 30 per cent Shunde local people. According to a report released by Shunde Furniture Design Institute et al. (2014), the gross output value of Shunde's furniture industry increased from 7.29 billion *yuan* in 2008 to 12.63 billion *yuan* in 2011. 90 per cent of Shunde furniture products were sold in the domestic market (mainly in the south, east and southwest parts), while the other 10 per cent were exported to the U.S., Europe, the Middle East and Southeast Asia. The average output value of furniture manufacturing firms was 2.5 million *yuan*, while about 30 per cent of the firms were under one million *yuan*, 40 per cent were between one million to five million *yuan*, and 20 per cent were between five million *yuan* to ten million *yuan*, and 10 per cent were beyond ten million *yuan*. About 300 firms achieved the annual output value of 20 million *yuan*. Generally, about 60 per cent of Shunde furniture firms were classified as mini-sized firms⁹⁰. The furniture firms of Shunde have been POE-dominated (80 per cent or above), and the share of the joint-stock firms was about 15 per cent. With the continuous growing of the

⁹⁰ According to the national classification of the firms, a mini-sized firm had 20 or less employees, and its annual revenue was under 3 million yuan.

furniture industry, Shunde entrepreneurs have expanded their business to the surrounding regions, including the neighbouring towns of Foshan, like the production of hardware and accessories in Nanhai and the production of plastic and wood material in Gaoming, and other prefectural cities, such as mahogany furniture manufacturing in Zhongshan and Jiangmen.

However, competition between towns has grown as a direct result of the booming furniture industry. Figure 5.4 shows that Longjiang, which developed from furniture manufacturing, has expanded into the furniture trade. Similarly Lecong possesses a large-scale furniture trade market, beginning also to engage in furniture manufacturing. Competing projects have been taking place in the neighbouring Lecong and Longjiang, such as holding international furniture exhibitions and establishment of massive distribution and exhibition centres. One interviewee⁹¹ who engaged in the furniture industry in Shunde said the cluster was POE-dominated and local governments were hands-off, making the cutthroat competition increasingly fierce.

The competition within the furniture cluster of Shunde and other regions has also become intense. Shunde has led the domestic market for over 20 years; however, its dominance has declined in the past decade. In 1990s, Shunde furniture occupied a more than 80 per cent share of the domestic market. However, the share dropped to about 20 per cent in 2012. Although there are thousands of furniture firms agglomerated in Shunde, there is only one firm that has been awarded with the “Famous Trademark of China” (the most-recognised certificate awarded by the Chinese government), while six firms were awarded with the “Famous Trademark of Guangdong Province” and ten firms were awarded with the official certificate “Famous Product of Guangdong Province”. The

⁹¹ Interviewee F, representative of a town-level chamber of commerce furniture, Foshan, August 2013.

furniture industrial report claimed that the products of 70 per cent or above of firms manufactured belonged to entry-level and mid-range. Furthermore, the majority of the firms remained used conventional production techniques. According to the furniture industrial report (Shunde Furniture Design Institute, et al., 2014), 80 per cent or above of firms still applied half-manual production; 70 per cent of firms had 500,000 or less fixed-asset investments on production lines.

One major reason the furniture cluster in Shunde lost momentum is a lack of motivation to foster capacity for independent innovation. The cluster has been heavily dependent on the knowledge and technology acquired by importing overseas technology and imitating of established products. The first generation of furniture entrepreneurs started their businesses by imitating Hong Kong products. At the same time, local entrepreneurs had established a shared base of information through local social networks and frequent labour flows. Due to a past successful approach and relatively limited resources, especially for SMEs, the firms have preferred to be “free riders” rather than risk-taking innovators. Once a firm launched a new product successfully, others would catch up with the trend rapidly. In addition, the firms do not respect the notion of intellectual property, and official efforts are not enough to crack down on intellectual property piracy either. All of these have undermined the capacity of firms to innovate. Therefore, frequent information exchange without adequate independent innovation has been more likely to result in homogeneous production and intensive competition on price. Hundreds of furniture stores have agglomerated in the exhibition buildings along the national highway between Longjiang and Lecong, displaying quite similar furniture with only minor differences on size, colour and price. The relationship between firms within the cluster

was actually loose. The anonymous interviewee⁹² who worked in the industry of furniture said, “They are competitors, or just the simple relationship of outsourcer and supplier. It is like a jigsaw in which each piece can be put together, but is also easily broken down and replaced by another jigsaw. Moreover, as the land resources run out, it has become harder for the less competitive industries to stay in the increasingly urbanised township. The fading away of the kid’s apparel cluster in Chancheng district may be the future of the furniture cluster of Shunde. It will threaten to undercut the township economy if there is no new engine”.

In addition to internal homogeneous competition, the furniture firms of Shunde, especially mini-sized ones with limited resources, are currently under pressure in the wider economic and social change of the country. On the one hand, the traditional furniture market with a low technical content has become oversupplied with a rise of other furniture clusters in other regions. This led to a sharply reduced profit and increasingly intensive competition on similar products. On the other hand, the investment environment has changed with China’s economic transition. The progressive environmental requirements, labour shortages and surges in the price of raw material have all accelerated the fall in profits and exacerbated a lack of sustainability. In 2012, 90 per cent of furniture firms of Shunde encountered labour shortages. Of this number, 80 per cent were in need of production workers, 30 per cent required marketing and sales employees, 30 per cent asked for designers and R&D developers, and 10 per cent demanded management (Shunde Furniture Design Institute, et al., 2014).

⁹² Ibid.

5.2.4 Regional innovation system (RIS)—household appliance industry

It is well known that China has been a powerhouse of household appliance manufacturing since the mid-1990s, with a huge domestic market and vast exports. Shunde is the largest household appliance manufacturing base of China, its industrial output value was 15 per cent share of the national total (Shunde Department of Planning and Statistics, 2011a). The industry is mainly clustered in the towns of Ronggui and Beijiao, both of which have had an over 10 billion *yuan* of industrial output value. In 2009, the share of Shunde's production output of microwave ovens, gas water heaters, range hoods and gas ranges of the national total were 69.21 per cent, 65.38 per cent, 37.32 per cent, and 27.81 per cent, (of the provincial total were 94.32 per cent, 78.18 per cent, 54.54 per cent, and 53.95 per cent) (Shunde Department of Planning and Statistics, 2010). Table 5.3 shows the main household appliance output of Shunde during the 11th five-year plan (2005-2010), and their shares of the provincial total. Most of the products achieved double-digit growth in this period.

Table 5.3 Shunde's production output of household appliances in comparison with Guangdong province, 2005 and 2010

Household Electric Appliances	Shunde District			Provincial Output of 2010	Shunde's Share of Provincial Output
	Output 2005	of Output 2010	of Average Growth		
Refrigerator	3,006,051	6,694,563	17.37%	14,577,612	45.92%
Air Conditioner	11,634,805	17,894,641	8.99%	54,778,498	32.67%
Range Hood	1,427,347	7,558,890	39.57%	13,246,683	57.06%
Microwave Oven	28,700,998	51,346,633	12.34%	53,410,045	96.14%
Washing Machine	1,016,887	1,987,847	14.35%	4,678,369	42.49%
Gas Range	3,990,471	7,999,105	14.92%	16,017,467	49.94%

Gas Water Heater	4,296,724	8,380,946	14.30%	13,417,932	62.46%
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Source: Shunde Department of Planning and Statistics (2011).

The household appliance industry possesses the largest share of Shunde industrial output value. Facing similar challenges as the furniture industry including fierce competition with other areas and rising production costs, the household appliance industry has nevertheless maintained stable growth and a leading position. In addition to firms' self-upgrading, the Chinese government's massive subsidy programme in the last five years has made a significant contribution to bolstering the development of the industry. The aim of the programme was to encourage rural residents to purchase new home appliances or trade-in old ones for new ones. The programme was first rolled out in the three agricultural provinces of Shandong, Henan and Sichuan, as well as Qingdao city from December 2007 to May 2008, and then expanded across vast rural areas of the country in 2009 just as foreign demand waned at the height of the financial crisis. Prices were capped at 2,000 *yuan* for a color TV set, 2,500 *yuan* for a refrigerator and 1,000 *yuan* for a cell phone. Other subsidised goods included personal computers and electric motorbikes. The 13 percent subsidy was split 80-20 between the central and local governments respectively. Each rural household was allowed to purchase two items from each category and could claim the subsidies through their local township government (Wu, 2009).

Shunde's well-known household appliance manufacturers *Midea*, *Galanz*, *Ronshen*, *Hisense* *Kelon* were all accepted to sell their household appliance products through this programme, which substantially expanded their shares in a big rural market. Under this favourable situation, the household appliance industry of Shunde achieved sustained growth, and furthered consolidated its front-runner status (table 5.3).

Except the vigorous support by local, provincial and central governments, the inter-firm relationship and resulting upgrading path of Shunde's household appliance industry are other differences that set it apart from the furniture industry. At the beginning, the two industries shared similar starts. Some rural collective members with business sense bought second-hand refrigerators or air conditioners from their relatives in Hong Kong. They took the machines apart to study the components in details and then produced copied products. Once a TVE succeeded in producing a specific product, other TVEs would follow quickly. For example, the *Hopeful* Group founded in 1969 as a Shunde-based TVE of hardware processing, lathe and diesel engine accessories production began to produce electric fans in 1978. Their products became China's first electric fans exported to overseas markets in 1979. The *Hopeful* Group was one of the leading firms of electric appliances during the 1980s. Other local TVEs followed to produce electric fans, to the extent that there were at least two or three electric fans factories in every town of Shunde in the early 1980s. Quite a lot of owners or managers of local firms once worked in *Hopeful* factories. The current giant household appliance manufacturers, such as *Midea*, *Galanz*, *Ronshen* and *Kelon*, were all influenced by the success of *Hopeful*. As technology improved and capital accumulated, their product lines gradually extended to rice cookers, refrigerators, air conditioners, and washing machines. Up until now, Shunde has been the largest household appliance manufacturing base of the province and the country, accounting for almost 40 per cent of output value of Guangdong's electrical household appliance industry.

During the development, some relatively competitive household appliance manufacturers, such as *Midea* and *Galanz*, have gradually stood out of the crowd. In addition to their own successful corporate strategy, local governments' industrial policies, that choose two or

three “local champions” to foster as “industrial pillars”, have contributed to the rise of the lead firms. The governments have also guide other smaller-sized firms to develop as suppliers of lead firms, rather than competitors of them. *Midea*, headquartered in Beijiao town, accounted for nearly 70 per cent of industrial output value of the town. Sitting in the surrounding area of the plants of *Midea*, there are about 200-300 local firms making electrical parts for *Midea*’s products. One anonymous interviewed government official⁹³ said, “except *Midea* and *Country Garden* (one of China’s largest property developers), all other firms in our town are considered to be medium- and small-sized”.

To be sure, *Midea*’s development trajectory has been very much a typical case. Starting off as a bottle-lid workshop run by Beijiao commune in 1968, *Midea* began to produce electric fans from 1980. It launched a new production line of air conditioners in 1985, and when marketing this product, *Midea* took advantage of the similar customer groups and distribution channels as those used for electric fans. In order to stave off fierce domestic competition in the sector and maintain growth, *Midea* began to develop its sales and customer service network in overseas markets, notably those so-called niche markets, such as Southeast Asia, Hong Kong and Macau, rather than major export markets, such as the U.S. and Europe. In order to expand its market reach, as well as making more profits to invest in its own brand building and further innovation, *Midea* served as OEM subcontractors for TNCs, such as *Shell Electronics Hong Kong* in the mid-1980s, and *Toshiba* later. By doing so, the company has acquired substantial knowledge of global production, including global industrial standards and international market trends. Moreover, the profits it earned were regarded as a stable source of revenue, helping it through domestic competition (Liu and Yang, 2014). In 1988, *Midea* was granted licenses to import and export, and earned US\$8,100,000 through exports. In the same year, the

⁹³ Interviewee G, a town-level government official, Foshan, August 2013.

company became one of the top ten firms in Shunde whose industrial output value exceeded 100 million *yuan*.

In 1992, *Midea* implemented internal shareholding reforms (local government, managers and employees shared the stocks with different proportions), and was the first TVE in China to be listed on Shenzhen Stock Exchange. Supported by listing and financing, and governments' favourable policies, *Midea* increasingly expanded its production and increased product categories, mainly by merger and acquisition. As mentioned before, *Midea* cooperated with Japanese firms *Toshiba* and *Sanyo*, and Italian *Merloni Elettrodomestici Spa* to launch new products and to explore new markets. During Shunde's ownership reforms, *Midea* purchased the stakes of a JV—local *Macro* and Japanese *Toshiba*—and became the controlling shareholder of this air conditioner manufacturing firm. In doing this, *Midea* was able to master techniques for producing all necessary parts of an air conditioner. The most economically salient unit, the compressor, was an important profit source for *Midea* later when the domestic air conditioner market went into steep decline. In 1997, the growing comprehensive *Midea* Corporation introduced the multidivisional structure of “centralized decision, divided management”, departmentalising its production of different products, separating department duties and reducing overlaps and contradictions. In 2001, the company completed its transformation into a private-owned corporation following an MBO with the support of local government. It continues to open production plants in both China and abroad, including Vietnam, India, Brazil, Belarus and Egypt. It has established the most integrated production lines in air conditioners and microwaves, and the largest product base of household appliances (microwave ovens, refrigerators, range hoods, gas ranges, gas water heaters, washing machines, etc.) in the country. In 2009, it was selected as a “World Famous Brand 500”, the only award given to a Chinese household appliance

manufacturer. By 2010, it had broken through 100 billion *yuan* mark in sales revenue.

Midea has become a leading firm in the global household appliance production network, with suppliers including domestic and overseas firms, including *Toshiba*, *Panasonic* and *Sanyo*. It thus stands out among intensive domestic competition. However, the company's success has also been a threat to other smaller-sized manufacturers in Beijiao town. The manufacturer of copper processing equipment and precision copper products, *Jingyi Metal*, once engaged in producing small household appliances in early years. The President of *Jingyi Metal*, Feng Jingming, said it was difficult to compete with *Midea* at that time. *Jingyi*'s overseas orders have decreased continuously because its household appliance products were less competitive than *Midea*'s. Under the firm's integration plans and guidance of local government, *Jingyi* transferred to be another supplier of *Midea*, producing a specific copper tube for *Midea*'s air conditioner. Feng said, "Now our parts are exported all over the world along with the export of *Midea*'s air conditioners." (Chen, 2014) It came to be one of China's lead firms in this field with a large manufacturing presence in Shunde and Wuhu, Anhui province where *Midea* has an air conditioner manufacturing base. Since 2009, *Jingyi Metal* has been listed on the Shenzhen Stock Exchange.

Infore was a branch of household appliance OEM under *Midea* when it was set up in 1994. Its president, He Jianfeng, is the son of He Xiangjian, founder of *Midea*. In 2004, it withdrew from household appliance manufacturing and distribution, stepped forward to develop the raw material and machinery for household appliances by a series of buyouts of a few leading domestic firms in the field. Later, it created a private equity fund, the first investment fund that served the household appliance industry. It demonstrates a new transition in household appliance manufacturer with adequate funds.

Possessing a cluster which consisted of *Midea* and hundreds of suppliers and related manufacturers, Beijiao has developed into China's largest manufacturing base of air conditioners, rice cookers, microwave ovens, electric fans and water dispensers. Its integrated cluster has attracted other leading firms in this sector, like *Whirlpool* of the U.S., *Toshiba* of Japan, *SamSung* of Korea, *Baosteel* of Shanghai to invest in Beijiao.

Despite the existence of industry giants like *Midea*, a number of new firms in or nearby Beijiao town have seized the chance to develop as household appliance manufacturers in recent years. When *Apajia* was set up in 2004, it produced humidifiers by using a mould which was publicly available—a “benefit” that the local integrated cluster offered. Local SMEs were thus able to launch their household appliance products quickly by simple assembly after utilising the public mould. This was a shortcut for SMEs with low amounts of funds to invest, to engage in the market, but was also more likely to result in severe competition. In the beginning, *Apajia* shared the mould with hundreds of assemblers to produce the same products. It soon transferred to the ODM—designing special moulds for itself and some large-scaled manufacturers including *Midea*.

In recent years, *Apajia* has invested heavily in R&D and the promotion of its own household appliance products. The management of *Apajia* explained that SMEs were “underdogs” while the large-scale clients always dominated the negotiation of payment settlement. In fact, *Midea* terminated business with *Apajia* in 2007. But *Apajia*'s management claimed that the total revenue was not affected severely due to its double-digit growth of its own branded products (Zhang and Chen, 2014). In addition to the common distribution channels such as wholesale and retail through agents, *Apajia* has developed a free gift market, such as promoting its key products—humidifiers and air

purifiers as free gifts given to car purchasers by car dealerships.

E-commerce is another important channel to extend *Apajia's* market reach. Compared with traditional channels of wholesale and retail that required long-term and costly development, online sales are relatively easy for emerging household appliance manufacturers. One of the most important features of online sales is that sales information is open and transparent, allowing firms to understand and respond to consumer demand in real-time. Moreover, online information firms accessed are much wider and specific than a local and conventional distribution approach. This points towards the conclusion that a new group of electrical household appliance firms have emerged in Shunde by virtue of the rapid development of e-commerce.

Headquartered in neighbouring Leliu town, *Bear Electric*, a competitor of *Apajia*, is famous for its success based on online authorized distribution. Like *Apajia*, *Bear Electric* began in the free gift market in 2005. The microwave oven manufacturing giant *Galanz* ordered 100,000 *Bear* yoghurt makers as free gifts for its consumers. *Midea*, and then other electric firms, quickly followed and ordered this widely popular product as their consumer gift. Furthermore, *Bear Electric* spent about one million *yuan* to launch its advertisement and online distribution channel on China's largest online sales platform—*Taobao*⁹⁴ in 2009. In order to cater to large groups of Chinese online consumers who are young white-collar workers and college students, *Bear Electric* has released a series of “breakfast appliances” including yoghurt makers, egg boilers, and electric food steamers and so on. All of these products are independently developed with

⁹⁴ Taobao was founded by Alibaba Group on May 10, 2003. It is an online e-commerce market place which facilitates consumer-to-consumer (C2C) retail by providing a platform previously for small businesses and individual entrepreneurs to open online retail stores that mainly cater to consumers in China, Hong Kong, Macau and Taiwan. In recent years, more and more established firms, such as Midea and Galanz, have set up franchise stores or flagship stores on Taobao.

intellectual property rights. It was claimed that in 2012 the industrial output value of *Bear Electric* was over 200 million *yuan* for the first time, with 60 per cent shares from online sales. In 2013, its output value reached a record 300 million *yuan*, with online sales increasing to 80 per cent (Zhang and Chen, 2014).

In order to further industrial development and restructuring, and also due to limited land resources compared with growth in manufacturing, the Beijiao government has proposed to develop a “headquarter economy” that encourages local firms to transfer production plants to other areas, while keeping their headquarters in Beijiao. In fact, *Midea* and *Country Garden* did not move their headquarters out of the town even after they set up branches all over the world and both went on to be listed on the Hong Kong Stock Exchange. In the first place, this is because the two giant firms are close to clusters of household appliance manufacturing in Beijiao; second they have good relationships with local government and have received lots of support from the latter; third, business and living costs in Beijiao are lower than in first-tier cities⁹⁵. The global general office of *Midea* in Beijiao is a 32-storey building covering the functions of operation management, R&D, data analysis and human resource training and development. Under the drive of the two giants, *Infore* and other local firms have started their headquarter-building projects. Until October, 2014, there were 14 headquarter-building projects launched or under construction (Yu and Niu, 2014). Besides this, Beijiao successfully bid for the project of *Guangdong Industrial Design City*, a provincial government-oriented project. There are about 100 industrial design firms based in Beijing, Shenzhen, Guangzhou, Hong Kong, Germany, Japan, Korea, which have set up their branches there since its launch in 2009. The agglomeration of design firms can be regarded as an extension of the electrical household appliance cluster because a large number of them actually worked for local

⁹⁵ Interviewee G, a town-level government official, Foshan, August 2013.

electrical household appliance manufacturers. Overall, having benefited from the thriving of the household appliance cluster, Beijiao town has become an important manufacturing powerhouse of China, and has been developing into a “headquarter region” with more emphasis on R&D, design and marketing.

Although the cluster of household appliance manufacturing has kept substantial development so far, there are a few problems remaining to be solved. As analysed above, the profit rate of the industry is below average levels, though has the largest production scale of the country. A number of these townships then show an increasingly poor capacity of product development and independent innovation. There are a large number of industries, and agglomerations and clusters still dependent on the OEM mode, or have been producing similar and less competitive products, inevitably leading to fierce price wars. Even more significant is that most of Chinese subsidy programmes came to an end at the start of 2012. Household appliance manufactures need to find more stimuli in order to continue to build sustainable competitiveness.

5.3 The Case of Foshan through the Lens of the GPN

Like Dongguan, the start-up of economic development of Foshan was deeply influenced by international industrial relocations and overseas investments in mainland China. Unlike Dongguan, Foshan’s firms, as latecomers, have not only become suppliers of lead firms within GPNs. Taking advantage of emerging domestic markets, the firms of Foshan have more autonomy in seeking resources and niche markets with their regional assets in historical industrial bases and commercial traditions.

Local states have played a significant role in this evolution, responding strategically to the dynamics and changing demands of GPNs. Ownership reforms since the early 1990s are one part of the evidence that demonstrates this. Reform has transformed Foshan from a public-owned economy into a POE-dominated economy. It thereafter introduced modern corporate management practices, scaled up production, and promoted efficiency, mainly by increasing capital investment. In the meantime, the role of government in economic development has transformed from a direct participator to a planner and public service provider in the past ten years.

Local governments and entrepreneurs are involved in every aspect of Foshan's industrial development. The specialised township economy, which has provided Foshan's foundations for industrialisation, has developed into two main types of production networks. One example is the furniture industry, a local production network consisting of a large number of SMEs engaged in fierce low-cost competition; another is the household appliance industry, which has developed into a localised GPN led by a few leading firms.

The two cases elaborated on above are both located in Shunde district, and therefore their regional assets and development trajectories at an early stage are very similar: namely, an industrial legacy of communal workshops, modified products inspired by overseas products, emerging branded goods produced by TVEs, with most firms privatised after ownership reforms. However, furniture firms have been limited to small and medium sizes, while a few household appliance firms have developed into the lead firms of GPNs since then.

The specific strategies introduced by respective local governments have largely contributed to differences. In the case of the furniture industry of Longjiang town and

Lecong town, local governments have implemented a laissez-faire policy. Furthermore, they failed to promote the regional demands for value enhancement and capture. They also have not offered enough support in terms of independent innovation. For example, they have neither introduced necessary platforms for technological improvement and upgrading, nor strengthened the protection of intellectual property. In the case of the household appliance industry in Beijiao town, the local government has chosen a few key household appliance firms as “industrial champions” to foster, facilitating their merging and acquisition, promoting their cooperation with foreign partners, and driving other local firms to develop into suppliers of these lead firms. All of these have helped bolster a relatively stable network relationship/architecture consisting of a few lead firms surrounded by groups of suppliers.

According to the argument of Henderson et al. (2002), there are two forms of firm and network embeddedness within the GPN framework—territorial embeddedness and network embeddedness. Territorial embeddedness refers to the regional assets that can keep GPN firms in particular locations. In the townships of the furniture industry, territorial embeddedness has caused diminishing security due to the emergence of other lower-cost production regions. Facing similar increases in production costs, township governments of household appliances intend move towards being “the headquarters of lead firms” rather than a manufacturing base, and receiving enthusiastic responses from local lead firms. These intentions demonstrate that a township government is able to shape its regional assets strategically to fit the demands of firms of the GPN. The other form of embeddedness consists of network embeddedness, referring to a network structure, the degree of connectivity within a GPN, the stability of its agents’ relationships, and the importance of the network for participants. In this view, the furniture industry, a local production network dominated by SMEs, presents weak

network embeddedness. Because the suppliers' goods are little different and thus easy replaceable with low transaction costs, the firms within the network do not usually commit to keep a stable relationship. In the case of the industry of household appliances, under the guidance of a local state, the lead firm and its suppliers have developed a collaborative and differentiated practice, constructing a stable network relationship.

Generally speaking, the household appliance industry of Beijiao town is a particular localised GPN, with suppliers and consumers across the world, but most of them concentrate on domestic territory. Due to the participation of a large number of local firms to the GPN, it is likely to promote regional productivity through economic scale-up. Additionally, a localised GPN helps local firms maintain relative stability, or to delay the impact of international turmoil in the era of globalisation. Although its success is in large measure attributable to China's uniquely vast and emerging market, the development of Beijiao town still offers an inspiring trajectory for latecomers of GPNs. The cases of the firms *Midea*, *Jingyi*, *Apajia* and *Bear Electric* have all successfully created and enhanced value through developing niche products and markets.

However, it should also be noted that the characteristics of the industries of furniture and household appliances may partly create different network relationships. The production of furniture is relatively labour intensive and requires lower-level technical demands, and most of its production can be usually completed within an individual firm. It thus results in a less connected production network. The production of household appliances is a significant example of modularised production. It normally requires a huge supply of networks, and is dependent on external resources. These both lead to frequent exchanges and collaboration with the outside world, and are more likely to come to be GPNs.

Chapter 6 Comparative Study of Dongguan and Foshan

The previous chapters discuss the industrial development and characteristics of Guangdong province in detail, and the two typical yet different prefectural cities of Dongguan and Foshan. I now turn towards a comparative analysis in order to highlight the specific characteristics and economic performance of each area, and to deliver a thoughtful and comprehensive assessment of the impact of industrialisation on regional productivity. Hence, this chapter will introduce various performance indicators, including average firm scale (section 6.1), output-capital ratio (section 6.2), labour productivity and total factor productivity (section 6.3), and pre-tax profit rates (section 6.4) to assess and compare their industrial structure, efficiency and productivity, and financial performance. Section 6.5 delivers a comprehensive discussion based on the comparison of the development models of Dongguan and Foshan from the perspective of GPN.

6.1 Average Firm Scale

The development of industrial firms largely reflects the results of one region's industrialisation. Figure 6.1 and figure 6.2 use the average firm scale measured by industrial value-added and labour employment respectively to assess the industrialisation of Dongguan and Foshan, and attempts to measure the relationship of the two indicators.

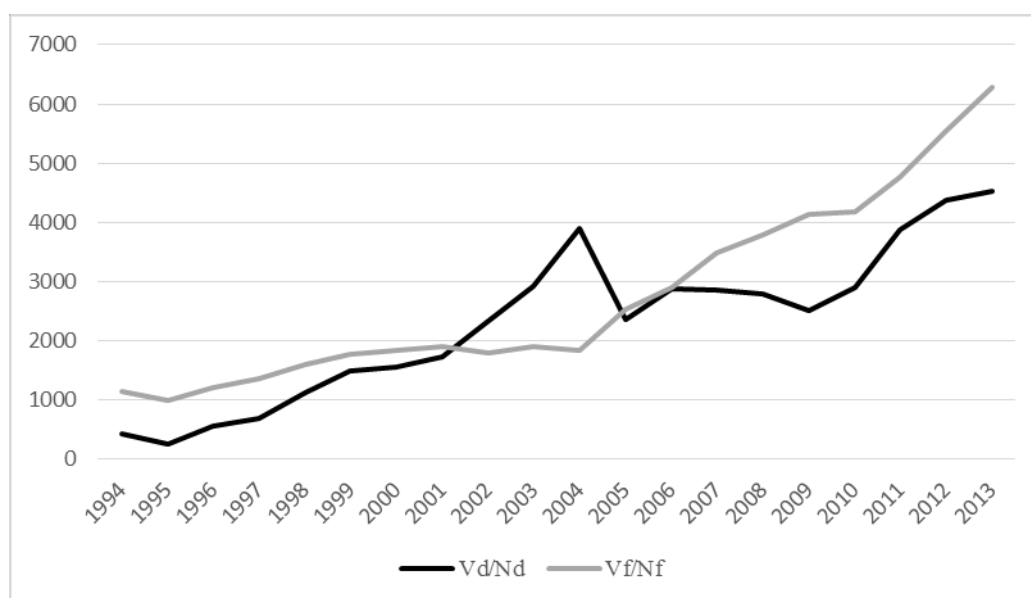
Industrial value-added refers to the real value produced in a production process after deducting the gross input cost. It is an important indicator that is used to measure industrial output and growth. Figure 6.1 shows the average industrial value-added

produced by each firm in Dongguan and Foshan respectively. The average value-added series of Foshan was higher than the series of Dongguan. The exception to this occurred in the period of 2001-2005, when Dongguan set its highest record. It is important to note that there is a significant difference between the number of industrial firms in 2004 in the continuous *Dongguan Statistical Year Book* between the year 2005 and 2006 (2,049 in the yearbook of 2005, and 4,224 in the year book of 2006; and the number of firms in the year of 2005 is 4,505), without any notes in the yearbook explaining the wide discrepancy between the two figures. Indeed, the difference in the data across successive years is so large as to be doubtful. Nevertheless, it is still reasonable to assume that Dongguan outperformed Foshan during this period. A possible explanation for this exceptional period results from the inflow of TNCs to Dongguan right after China's accession to WTO. It can also be inferred that Foshan's industrial value-added began its rapid rise after 2004 when the city completed its fundamental ownership reform.

Regardless of the exceptional rise in 2004, the trend of Dongguan is congruent with broader economic fluctuations. It had stable growth in the 1990s, and has had a slow decline since 2007. Dongguan rose again after 2010, indicating that it is likely to build up its upgrade despite still lagging behind Foshan. However, it is worth noting that the number of firms in Dongguan, as a denominator of the calculation of the average industrial value-added in figure 6.1, has had little increase or even reduction since 2010. At the same time, the total industrial value-added, as a numerator, has furthermore not achieved as high levels of double-digit growth as in the post-WTO period of 2002-2006. Its average growth rate of the period of 2007-2013 was 9.57 per cent (negative growths were registered in 2008 and 2011). For example, in 2011, the total industrial value-added decreased by 3.86 per cent from a year earlier, while the number of firms decreased by 28.07 per cent. It can therefore be inferred that a large number of firms, especially the

vulnerable SMEs, were closed due to the financial crisis. Moreover, the upward trend in firms' average scale in figure 6.1 after 2010 was partly due to the reduction of less competitive firms. However, the growth of industrial value-added both reached more than 20 per cent in 2012 and 2013, and the number of firms increased by 6.67 per cent and 18.45 per cent respectively. Both growth trends were positive. It thus remains to be seen whether Dongguan has achieved substantial industrial upgrading. Business failure also existed in Foshan seen from its decreasing number of firms during the period of 2009-2012. However, the value of Foshan's total industrial value-added was larger than Dongguan's (Dongguan's value-added is about 60 per cent of Foshan's) while having a similar number of firms to Dongguan. Hence, as can be seen from the below figure, Foshan presented a relatively higher growth trend than Dongguan.

Figure 6.1 Average firm scale of Dongguan and Foshan (industrial value-added), 1994-2013



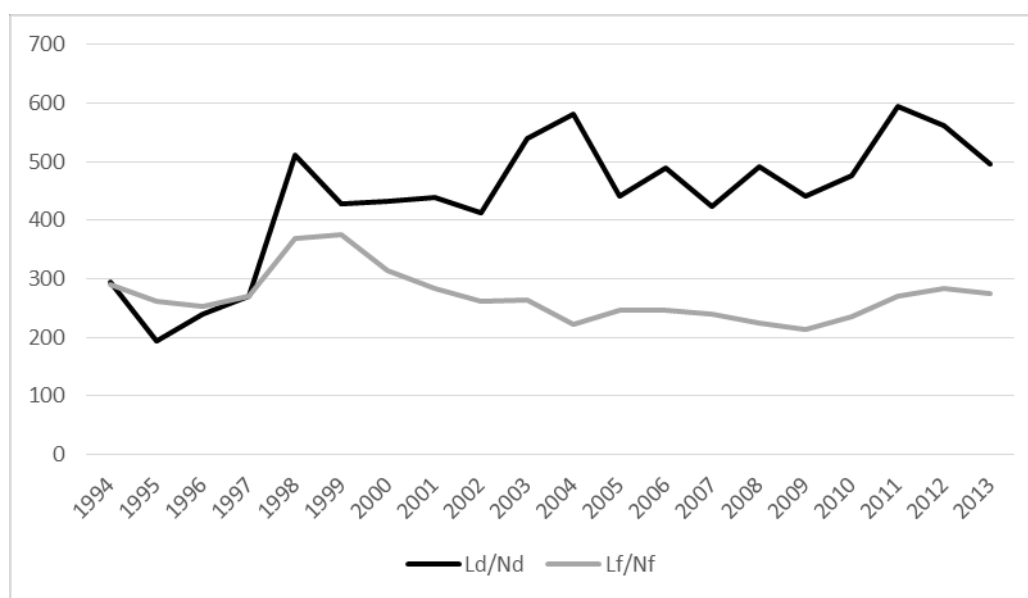
Source: Compiled by author from *Dongguan Statistical Yearbook* and *Foshan Statistical Yearbook*, various years.

Note: 1. V=industrial value added of industrial firms (current prices, 10,000 yuan); N=number of industrial firms. The category of "industrial firms" here refers to industrial firms above designated size (defined in chapter three).

2. Figures with subscript "d" refer to industrial firms of Dongguan; those with subscript "f" refer to industrial firms of Foshan.

Figure 6.2 shows average labour employment of industrial firms in Dongguan and Foshan. Dongguan hit some of the highest recorded levels of employment between 1994 and 2003, most of which coincided with economic fluctuations. It is therefore assumed that the advancement of Dongguan’s industry in figure 6.1 was mainly based on increases in levels of employment, a significant characteristic of labour-intensive production. By contrast, Foshan maintained a slow decline in labour employment after the end of 1990s. It can be inferred, therefore, that its industrial growth derives from the deepening of capital investment rather than a widening workforce. More evidence will be explored in subsequent sections to consolidate this assumption.

Figure 6.2 Average firm scale of Dongguan and Foshan (labour employment), 1994-2013



Source: Compiled by author from *Dongguan Statistical Yearbook* and *Foshan Statistical Yearbook*, various years.

Note: 1. L = labour employment of industrial firms; N=number of industrial firms. The category of “industrial firms” here refers to industrial firms above designated size.

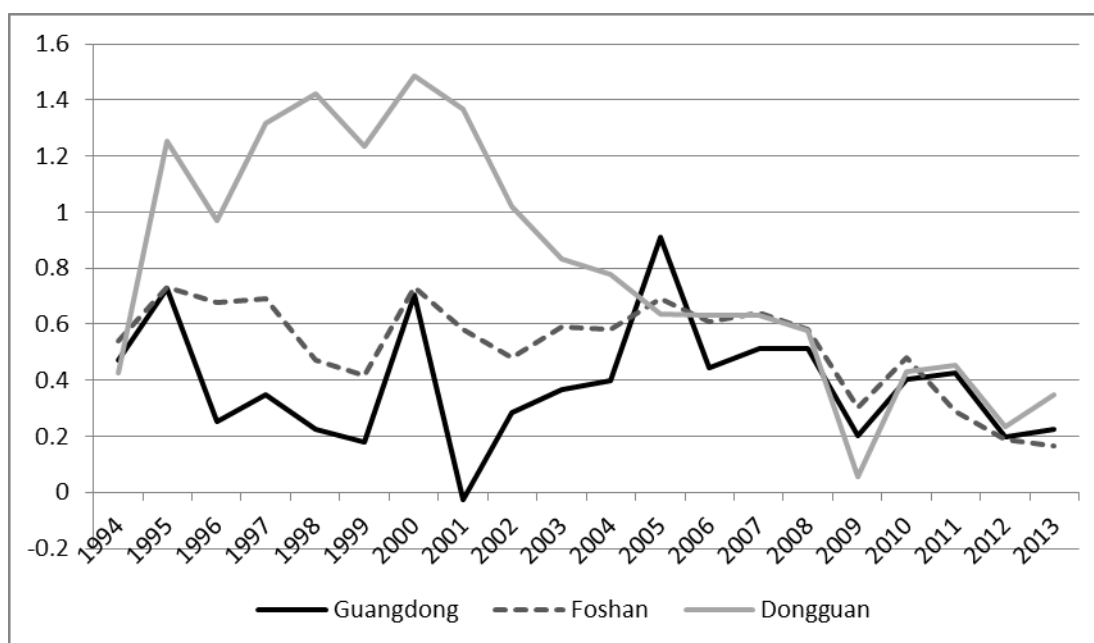
2. Figures with subscript “d” refer to industrial firms of Dongguan; those with subscript “f” refer to industrial firms of Foshan.

6.2 Output-Capital Ratio

Output-capital ratio (OCR) concerns the ratio of incremental output of production to the amount of capital investment over a set period of time. In figure 6.3, Dongguan possessed a salient OCR from 1994 to 2004, indicating a relatively higher output to a relatively lower capital investment. During the same period, Foshan and Guangdong showed much lower OCRs (lower than one in most of the period), indicating a lower output relative to higher capital investment. It further supports the idea that industrialisation in Dongguan is labour-intensive, and in Foshan and in Guangdong, relatively capital-intensive. Depending on its labour-intensive comparative advantage, as elaborated on in previous sections, Dongguan has shown an obvious substitution of labour for capital. Meanwhile, it is also likely that Foshan and Guangdong have relatively higher levels of capital replacement of labour dependent on technical factors.

However, since 2005 or 2006, the OCR of Dongguan, Guangdong and Foshan, have declined precipitously. Connected with the policy of industrial upgrading promoted by Guangdong provincial government in the same period, changes of OCR suggest that the three regions were all carrying out and undergoing capital-deepening industrialisation, though were neither undergoing such changes at the same pace, nor at the same stages in this process. In the respect of industrial upgrading and capital-deepening, entrepreneurs, especially those engaged in labour-intensive industries, have increased investment in automatic production lines in order to deal with rising labour costs and labour shortages. The survey of HKTDC (2008) stated that 29.9 per cent of surveyed Hong Kong firms in the PRD area planned to raise production automation to respond to the challenges. Another survey conducted by FHKI (2014) noted that half of their surveyed member firms have applied innovation to corporate management and production automation.

Figure 6.3 Output-capital ratio of Guangdong, Dongguan and Foshan, 1994-2013



Source: Compiled by author from *Guangdong Statistical Yearbook*, *Dongguan Statistical Yearbook* and *Foshan Statistical Yearbook*, various years.

Note: OCR = dY/dK , where dY = GDP of current year minus GDP of the year earlier (current price, 100 million yuan), $dK = I$ = total fixed asset investment (current price, 100 million yuan).

6.3 Productivity Performance

Productivity growth is usually considered to be the most critical determinant of a region's economic and social development in a long-term perspective. Figure 6.3 presents the relative labour productivity and total factor productivity (TFP) of Dongguan and Foshan from 1994 to 2013. Foshan's relative TFP was beyond Dongguan's during this period. Furthermore, the gap between the two cities actually widened substantially after China's accession to the WTO, indicating that the difference between their industrial characteristics and productivity performance was increasingly pronounced.

Figure 6.3 shows a comparison of the productive performance of Dongguan and Foshan.

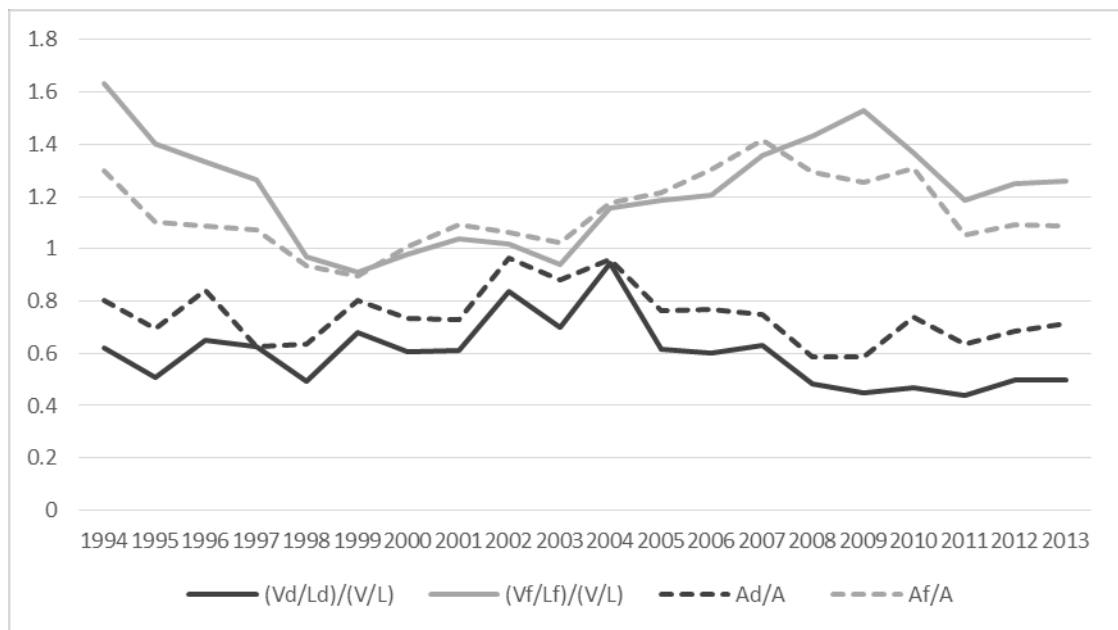
Dongguan remained lower than one over the whole period, which means that it was under the provincial level. It has even declined after 2004 to levels lower than in the 1990s. Dongguan's unsatisfied labour productivity did not reflect its high GDP ranking in the province. Considering the increase of industrial value-added and labour employment illustrated above, declining labour productivity further confirms that Dongguan's industrial development is based on the labour-intensive model. Furthermore, compared with the rising series of Foshan in terms of relative labour productivity, it is likely that Dongguan achieved higher allocative efficiency than Foshan. However, looking at the indicators of overall efficiency performance represented by the evolution of relative TFP, the series of Dongguan were also under the provincial level. This suggests the loss of Dongguan's overall efficiency has overshadowed its gains in allocative efficiency.

In contrast, the series of relative labour productivity and relative TFP of Foshan were both above 1 during most of the period, which indicate they were higher than the provincial level. They showed upward trends despite a drop after 2010 possibly due to China's economic slowdown and the end of most of stimulus policy package. It can assume that the general improvement in TFP enables Foshan to generate larger output and shifts it to a higher frontier through more capital-intensive than Dongguan. Figure 6.4 estimates TFP levels of industry for values of the parameter on a reasonable interval. The values are considered to be 0.4, 0.5, and 0.6. The results show that the patterns are close to each other.

Furthermore, it is noted in figure 6.3 that both Dongguan and Foshan have had higher relative labour productivity and relative TFP in the early 1990s than most years since. Because the relative value comes from the ratio of the real data of prefectural cities to those of Guangdong province as a whole, it is thus understandable that the regional

development of Guangdong has become more balanced than during the early 1990s, with the share of PRD cities in total provincial development therefore decreasing.

Figure 6.4 Relative labour productivity, total factor productivity of Dongguan and Foshan, 1994-2013.

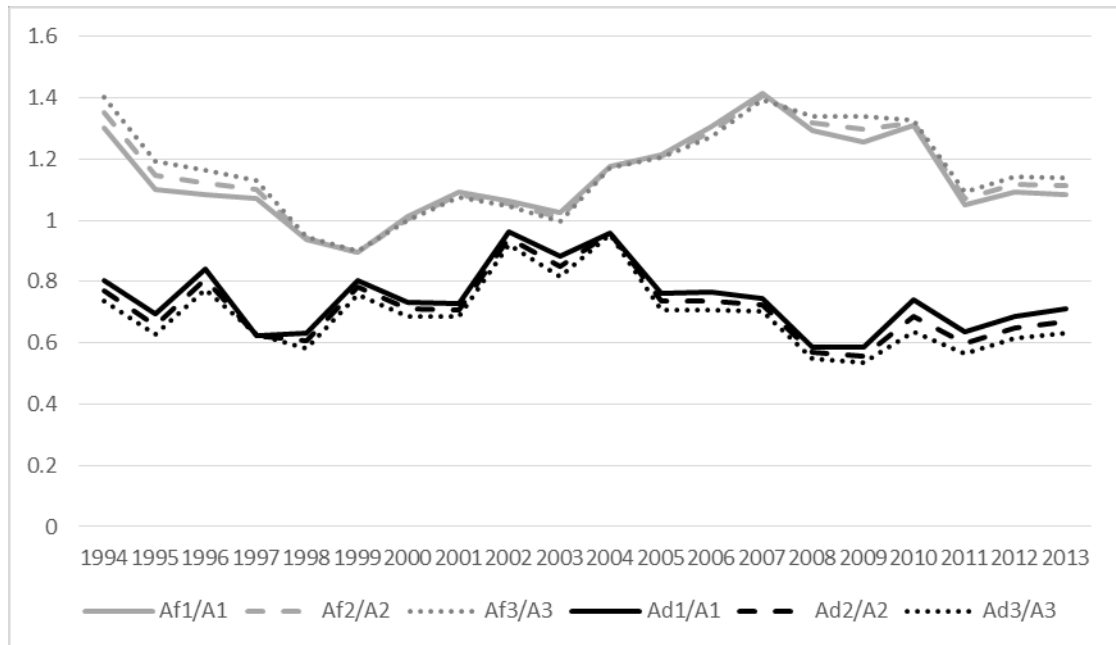


Source: Compiled by author from *Guangdong Statistical Yearbook*, *Dongguan Statistical Yearbook* and *Foshan Statistical Yearbook*, various years.

Note: 1. V= industrial value added of industrial firms (current prices, 100 million yuan); L = labour employment of industrial firms (10,000 persons); K=Value of fixed-assets net of depreciation of industrial firms (year average, 100 million yuan); V/L=labour productivity (yuan per worker); $A=V/[(L^{0.6})(K^{0.4})]$ =total factor productivity. And the category of “industrial firms” here refers to industrial firms above designated size.

2. Figures with no subscript refer to industrial firms of Guangdong; those with subscript “d” refer to industrial firms of Dongguan; those with subscript “f” refer to industrial firms of Foshan.

Figure 6.5 Total factor productivity: Dongguan and Foshan relative to Guangdong province, 1994-2013



Source: Compiled by author from *Guangdong Statistical Yearbook*, *Dongguan Statistical Yearbook* and *Foshan Statistical Yearbook*, various years.

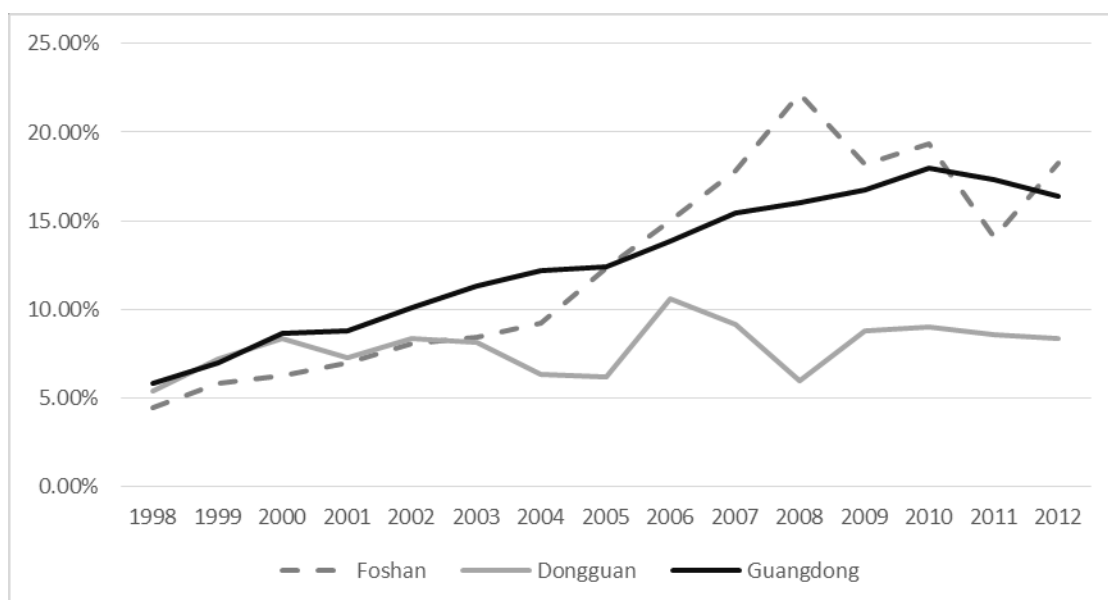
Note: 1. Assume the level of TFP, $A=V/(K^\alpha L^\beta)$, where $\alpha + \beta = 1$. In the two groups respectively divided by grey and black curves, the three curves of each group of TFP, 1, 2, and 3, correspond to α taking a value of 0.6, 0.5, and 0.4, respectively.

2. Figures with no subscript of letter refer to industrial firms of Guangdong; those with subscript “d” refer to industrial firms of Dongguan; those with subscript “f” refer to industrial firms of Foshan.

6.4 Rates of pre-tax profit

Rates of pre-tax profit indicate financial performance of the manufacturing sector. Figure 6.5 displays pre-tax profit rates of Guangdong, Dongguan and Foshan during the period 1998-2012. The earliest year that the necessary data of all three regions can be collected from yearbooks is 1998. The figure illustrates that the rate of Guangdong province started from 5.81 per cent in 1998, reaching the height of 17.99 per cent in 2010, before declining slightly to 16.35 per cent in 2012, likely having been affected by weakening global and domestic demand. Compared with Dongguan and Foshan, Guangdong’s growth in rates of pre-tax profit have been relatively stable and pronounced.

Figure 6.6 Rates of pre-tax profit of Guangdong, Dongguan and Foshan, 1998-2012



Source: Compiled by author from *Guangdong Statistical Yearbook*, *Dongguan Statistical Yearbook* and *Foshan Statistical Yearbook*, various years.

Note: Pre-tax profit rate=total pre-tax profits/(average balance net value of fixed assets+average balance of circulating funds). Total pre-tax profits here refers to the sum of total profits, sales tax as well as additional and payable value-added taxes.

In figure 6.5, it can be seen that Foshan started from the lowest pre-tax profit rate (4.43 per cent) of the three regions in 1998. Its rate did not exceed Dongguan's until 2003 (Foshan: 8.43 per cent; Dongguan: 8.14 per cent; Guangdong: 11.29 per cent), and did not exceed Guangdong until 2006 (Foshan: 15.01 per cent; Dongguan: 10.58 per cent; Guangdong 13.82 per cent). Foshan's rate peaked at 22.15 per cent in 2008 then changed dramatically believed to be a result of sluggish global and domestic markets. Since the economy of Foshan had been based on traditional industry (usually lower tech and low price goods, such as household appliances, textiles and garments and furniture), it is understandable that it has had relatively lower levels of profitability for a long period. However, Foshan has also maintained double-digit rates of pre-tax profit from 2005, showing a remarkable capability in terms of value creation and enhancement.

The pre-tax profit rate of Dongguan was almost always under the provincial level except

in 1999 (in this year, the rate of Dongguan was 7.19 per cent, Foshan was 5.78 per cent, and Guangdong was 6.97 per cent). This demonstrates that the economy of Dongguan has been based on a model of low profitability, or further, its capability of value capture has been inadequate. The growth rates of Dongguan have been fluctuated the most out of the three regions, with variations coinciding with fluctuations in the global economy. This shows that the profitability of Dongguan has been greatly affected by international markets. Similar to other indicators, its pre-tax profit rate peaked at 10.58 per cent in 2006 due to the influx of foreign and overseas Chinese investment after China's accession to the WTO early on. However, the rate has begun to decline since 2007. This is very likely because the major products of Dongguan had been replaced by the next-generation products (for example, the sales of laptops, smart phones and tablets were much faster than traditional desktop PCs which was the major product of Dongguan factories) and the relocation of MNCs as they transferred their target to the Chinese domestic market, mentioned in Chapter 4. It then fell further in 2008 when the global financial crisis began, and the domestic government started to tighten policies and regulations for firms in operation during the same period. Although it climbed again in 2009, possibly pushed by the stimulus policy, the rate of Dongguan has dwindled in recent years as the global economy has not yet recovered and the domestic economy also showed signs of fatigue.

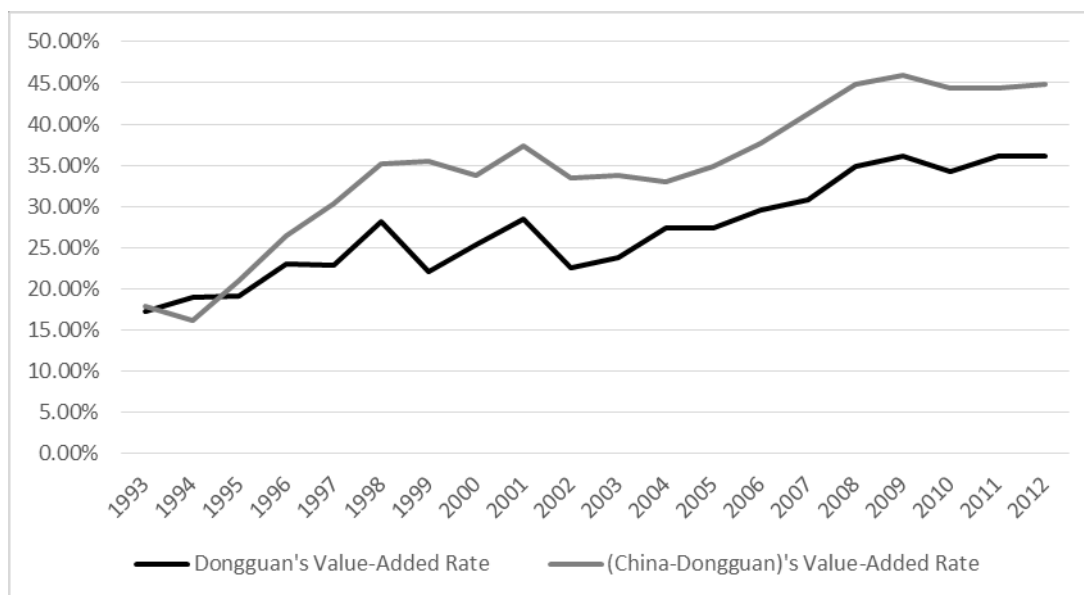
It is believed that Dongguan's relatively low and fluctuant pre-tax profit rates reflect its industrial characteristics. However, it is not enough to simply suggest that the pre-tax profit rates of Dongguan, the fourth largest economy of the province, have been significantly lower than the provincial level. Instead, Dongguan's capability of value creation can be further analysed, in particular, my examination of its value-added rate of processing trade, the dominant part of Dongguan's export industry. Figure 6.6 shows the value-added rate of processing trade of Dongguan and China during the period

1993-2013. The rate of Dongguan was always below that of China except 1994 (in 1994, China: 19.78 per cent; Dongguan: 23.47 per cent). The fluctuations of both rates of Dongguan and China followed similar paths, especially after 2001. This tells us that the development of the processing trade in Dongguan kept the same pace as that of China as a whole. Nevertheless, Dongguan's levels of value-added were under national levels, and presumably, the profit Dongguan obtained was lower than national levels.

Still, it is also possible that the low profit-rate of Dongguan is due to an unknown but perhaps large number of firms that underreported their related data of profits in order to enjoy favourable tax policies. My interview with two reporters⁹⁶ who engaged in economic coverage in Dongguan, a considerable number of chambers of commerce and business associations in Dongguan organise regular or occasional training for finance staff, offering "reasonable" ways to avoid tax, including under-reporting profit. As elaborated in chapter four, China (except Hong Kong, Macau and Taiwan) has been the source of the largest trade deficit of Dongguan due most significantly to a rapid growth in *domestic goods re-importation*. Overseas Chinese firms and foreign firms contributed to this re-import growth through a "one-day trip in Hong Kong" for their products made in Dongguan. By manipulating price variations of exports to Hong Kong and re-imports to mainland China, firms have been able to transfer a part of profits to their overseas headquarters or branches, delaying the profitability of their factories in Dongguan. Usually, local governments have granted tax-free policies to overseas Chinese and foreign firms that have not been profitable.

⁹⁶ Interviewee D, London, January, 2015; Interviewee H, Guangzhou, August, 2013.

Figure 6.7 Value-Added Rate of Processing Trade of Dongguan and China, 1993-2011



Source: Compiled by author from *China Trade and External Economic Statistical Yearbook* (2013) and *Dongguan Statistical Year Book* (2013).

Note: Value-added rate = $(\text{exports}-\text{imports})/\text{exports}\times 100\%$. (China-Dongguan)'s value-added rate = $[(\text{China's exports}-\text{Dongguan's exports})-(\text{China's imports}-\text{Dongguan's imports})]/(\text{China's exports}-\text{Dongguan's exports})\times 100\%$.

6.5 Discussion through the lens of the GPN

As explained in previous chapters, the firms of both Dongguan and Foshan have participated in GPNs in various ways, and to different extents. However, as argued by Henderson et al. (2002) and Coe and Hess (2011), the embedding of GPNs into regional economies does not automatically guarantee positive developmental outcomes, even if such a process results in new or enhanced opportunities for value capture at the local level.

In this chapter, the industrial characteristics of Dongguan and Foshan have been analysed by their industrial scale, output-capital ratio, labour productivity, total factor productivity, and rates of pre-tax profit. Where a prefectural city's value is measured relative to

provincial value, in most cases, the performance of Foshan has been superior to the provincial level, while Dongguan has been below the provincial level.

Generally speaking, both Dongguan and Foshan have shown signs of value creation and enhancement during the process of coupling with GPNs, but they are also distinguished by different characteristics and at different stages of development. Dongguan clearly has been on a trajectory of labour-intensive industrialisation while Foshan has followed an increasingly capital-intensive path over the same period. The industrialisation of Dongguan over the past decades has followed a given comparative advantage, and hence a pattern of specialisation that is dictated by the world market. By contrast, the development path of Foshan is distinguishable from the orthodox account, or in terms of Justin Lin's argument regarding CAF and CAD, CAD rather than CAF. The differences between Dongguan and Foshan are determined by their historical endowments and the intervention of institutions involved that the thesis discussed in Chapter 4 and Chapter 5.

Although Dongguan is likely to outperform Foshan in terms of allocative efficiency, the overall efficiency of the former is less favourable than the latter. Furthermore, Dongguan has taken advantage of "cheap and abundant labour" to respond to the demands of lead firms of GPNs. The dominance of this characteristic in Dongguan's industrial development so far has shown little change. Due to rising costs, labour shortages and the emergence of other lower-cost regions, Dongguan is unlikely to satisfy TNCs in pursuit of a reduction in production costs, which means it is losing its essential regional assets to correspond to the GPNs. Hence, it is legitimate to consider the probability that Dongguan will not be able to sustain its labour-intensive processing trade model in the future. Facing similar pressures of rising costs, Foshan, which has increasingly evolved into a capital-intensive model, has promoted the formation of an integrated industrial system

that is not easily replaceable, as a kind of unique regional asset.

Moreover, on financial performance, Dongguan has also been less successful than Foshan, mainly based on an assessment of pre-tax profit rates of industrial firms. In the perspective of GPNs, the value captured/retained by local regions highly depends on ownership and control (Henderson et al., 2002; Mackinnon, 2012). Foshan, dominated by local POEs, has shown its high bargaining power on decisions of profit appropriation.

Overall, all of the assessments above indicate that the development model of Foshan offers a feasible alternative path for late comers of GPNs, though explanations of its success cannot necessarily be explained by orthodox economic arguments.

Chapter 7 Conclusion

In the following sections of this concluding chapter, I address research questions raised in chapter one. Section 7.1 revisits the industrialisation of Guangdong province and specialised townships, recapitulating and elaborating on the common origins and challenges faced by Dongguan and Foshan. Section 7.2 summarises the industrialisation and regional development paths of the two cases. Section 7.3 identifies the key factors that have contributed to differences between the development paths of Dongguan and Foshan based on a review of previous comparative studies. Section 7.4 discusses the implications that the two models have had for firms and governments. Section 7.5 explains the limitations of this thesis, and makes recommendations for further research.

7.1 The industrialisation of Guangdong and the specialised township economy

The salient feature of Guangdong's industrialisation is its specialised township economy, the characteristics of which are an agglomeration of specialised firms in some specific localities that are divided by unit of township. Rapid industrialisation over the last thirty years has greatly promoted the urbanisation of these areas, making the PRD area an archipelago of industrial clusters and a mega-city group.

Most of these townships are located in the PRD area, but in the suburban areas or rural areas. Due to the urban area-oriented distribution system and strict household registration control formed by historical and political factors which crystallised before reform, most national resources, including human and material capital, were allocated to urban areas.

When rural areas began to pursue industrialisation following the initiation of reform they were able to provide cheap labour and land resources, and therefore partook in GPNs by engaging in processing and assembly as subcontractors.

This rural industrialisation promoted economic activities in townships and villages, and facilitated the resources accumulated in specific industries and in specific localities due to historical traditions and the selections of investors. It has gradually evolved into specialised township economies, one of Guangdong's core regional assets. The relatively integrated production within specialised townships, which have further promoted territorial and network embeddedness of TNCs in Guangdong. All competitive industries of Guangdong, such as electronics, household appliances, textiles and garments, have developed in these specialised townships. In Dongguan, typical specialised townships are driven by the OCIEs, forming an agglomeration led by the third- or fourth-tiered suppliers of the lead firms of GPNs. In Foshan, large numbers of specialised townships derived from specialised trading markets in early years, then extended to parts of manufacturing and distribution.

Both of the two industrial development paths have helped to concentrate related resources as production and market trading has expanded, implicit to which has been a process of drawing in firms producing congeneric products from outside the regions. Even though the production costs of labour-intensive industries have increasingly risen in recent years, large numbers of firms still consider Guangdong as their main production base. According to the report of FHKI (2010), most Hong Kong SMEs in consumer electronic industries have preferred the PRD area rather than Vietnam and Indonesia that have offered lower-cost labour. These firms felt that it was premature for them to move there, because those locations currently lack the infrastructure and supporting industries

that is necessary to support an electronic SME to run its business.

Some specialised townships have developed into integrated regional production systems over the last three decades. However, few of them are able to evolve into regional innovative networks or regional innovative systems due to a lack of long-term interactive cooperation on innovation between regional firms, and between the firms and knowledge organisations. Most firms are export-oriented, and their production and supply are dominated by TNCs, such as the electronics townships in Dongguan which has had a heavy dependence on Taiwanese outsourcers, and supply of material and key parts from Japan, Korea and ASEAN countries. Some of them have failed to establish long-term relationships of trust between the firms without explicit legal rules and appropriate support of government. For example, the firms of the specialised townships of electronics industry in Dongguan have weak territorial embeddedness because of decreasingly competitive regional assets. The firms of the specialised township of furniture in Foshan have weak network embeddedness because of loose relationships within townships. Most of the firms which are agglomerated in the township are SMEs and produce similar finished products of furniture. Such concentrations of firms have usually resulted in cutthroat competition on price due to a lack of differential production and operation. Moreover, specialised townships have developed from rural areas that have scarcity in research institutions. Contrasting with these less competitive townships, the household appliance township in Shunde district of Foshan has established relatively stable relationship between local firms, and between the firms and research institutions for innovation under the support of local governments. Hence, local innovative entrepreneurship, collaborative work among the actors within the township and effective industrial policies have not only facilitated the formation of a cluster that has consisted of stable leading firms and suppliers, but one which has also created a groups of firms,

including the large-sized leading firms and SMEs, with diverse products and markets. This household appliance township thus can be regarded as a relatively successful case.

Based on the specialised township economy, Guangdong has achieved remarkable industrialisation and regional development. However, its efficiency and productivity have not made much advancement relative to national levels over the past twenty years. Continuous labour shortages, and rising production costs and diminishing first-move advantages all make Guangdong less competitive and less unique within GPNs, and have served to bring it into intensive competition with emerging regions and countries. Furthermore, Guangdong has struggled with ever-growing demands of lead firms of GPNs, such as environmental protection and effective energy saving. Since most of the specialised township economies developed from a process of rural industrialisation in the past thirty years, current manufacturing trends which present increasingly high requirements on innovative technology is not what the majority of firms in the PRD area are best at. Low-skilled labour is another of Guangdong's constraints in responding to challenges from other regions, such as the YRD area which has had a well-developed industrial foundation and talent pool from as early as before reform. The disappearing dividends brought by China's accession to the WTO, the outbreak of the global financial crisis, and a lingering depressed global and domestic market have caused a sharp deceleration of export demand and domestic consumption. All these factors have impressed on Guangdong the necessity to transform from an existing model of industrial development to a new model of sustainable development.

7.2 The regional development of Dongguan and Foshan

Regional development is heavily shaped by a region's industrial characteristics. Although the PRD area has generally engaged in export-oriented OEM and processing trade, the development paths of cities within the area under consideration have varied due to different industrial origins, structures and cultures. The prefectural cities of Dongguan and Foshan, located on the east and west banks of the Pearl River respectively, represent two distinct cases.

7.2.1 The regional development of Dongguan

Dongguan's industrial development has benefited from international industrial relocation and China's favourable policies towards OCIEs and FIEs. During its industrialisation, Dongguan has increasingly participated in global production networks. Most of Dongguan's specialised townships originated in flows of overseas investment, in which OEM was undertaken as subcontractors of the lead firms of GPNs.

The processing trade has dominated Dongguan's manufacturing production from its earliest development until the present. At first supplies of materials were mainly organised and realised abroad by TNCs. Dongguan earned revenues by exploiting abundant and cheap labour. Along with the rapid industrialisation of Dongguan, TNCs have extended their operations and constructed links with local suppliers. An intrinsic part of this process therefore has been that Dongguan has furthered its participation in global networks by utilising locally-produced materials and parts as well as labour. As more parts of production and sourcing are completed in Dongguan, there has been an increase in added value in exports. However, Dongguan's value-added rate of processing trade has been almost always below the national rate though it is one of the largest

processing trade bases in the country. This is likely to have been because the clusters in Dongguan have been mainly initiated and dominated by the third- and fourth-tier Taiwanese or Hong Kong firms of GPNs, supplying non-core products, such as power supply units, batteries, and cables/connectors. Moreover, these firms have usually come to Dongguan with their original suppliers, retaining tight-knit networks in the same form as their home countries or regions previously. Hence, the effect of spillover to local sub-suppliers have been much less than expected, limiting potential value created locally in Dongguan.

According to imports and exports statistics, Dongguan represents one example of the new East Asian triangle trade model by: importing intermediate products from its Asian partners, Japan, Korea Taiwan and ASEAN; processing and assembling them into finished goods; and exporting them to North American and European markets directly or through Hong Kong. The electronics industry in Dongguan is the most significant example. Dongguan is recognised as the powerhouse of global electronic industry for mass production. However, its electronic production is highly dependent on overseas upstream suppliers, like first- and second-tier firms in Japan and Taiwan. The highest value added parts of electronics units are imported from East Asian and ASEANS countries. As subcontractors of TNCs, most electronics firms in Dongguan are positioned to play a part in processing and assembly, relying on earning a five per cent processing fee as well as ever-changing export rebates. Generally, although the pillar industry of Dongguan has been transformed from labour-intensive industries, such as textiles and garments, toys and furniture, to capital-intensive industries, such as electronics, its manufacturing has oriented towards processing and assembly. Due to high-end raw materials and units and key proprietary technology remaining in the hands of TNCs, local suppliers in Dongguan have had to pay high prices for licence fees and imports, leading to

low profit margins. Local suppliers have thus promoted their revenues by scaling up production. However, market collapses and rapidly reduced orders have caused significant losses, as happened during the period of global financial crisis. The mass production of this manufacturing powerhouse is unlikely to bring high profit margins. Hence, the value Dongguan create and enhance during its coupling with GPNs is limited.

Until now, Dongguan's coupling with GPNs has depended on its regional asset in cheap labour. Due to continuous labour shortages and the fast growth of labour wages, in addition to the appreciation of the RMB exchange rate and skyrocketing prices of raw materials, the uniqueness of Dongguan's regional assets have been gradually lost, and become easily replaceable by other emerging regions with lower-cost production facilities. Such a process has tended to produce weak network embeddedness of local suppliers within GPNs, as well as weak territorial embeddedness of TNCs in Dongguan.

Along with the boom of overseas investment and migrant population, local residents, which mainly consist of rural collective members, "got rich quick" through the leasing of land and buildings. In addition to the collective dividends on leasing, local residents mainly engage in manufacturing sector as the subcontractors of overseas firms, and develop the market-oriented services industries. Furthermore, most revenue of local township and village governments come from property leasing and the processing fee of processing trade. Local government officials therefore concern with these direct profit-making ways, and they do have strong voice in decision-making because of the decentralisation of administrative authority. Because of the high dependency on TNCs, local governments prefer pander to their demand of being the processing and assembly base. Nevertheless, this has been increasingly inconsistent with the willingness of the prefectural and provincial governments that ask for industrial upgrading. This is likely to

intensify the asymmetric power between local state and TNCs, along with the increasing generic regional assets, the bargaining power with local governments in Dongguan has declined.

7.2.2 The regional development of Foshan

The specialised township economy has been a fundamental part of Foshan's industrialisation. Unlike Dongguan that functions as a processing part of GPNs controlled by TNCs, most specialised townships in Foshan are dominated by local privately-owned firms. They have developed into integrated clusters covering production, marketing and sales distribution, and have focused on the domestic market. Based on its historical heritage and commercial traditions, the pillar industries of Foshan are its traditional competitive industries, like ceramics, textiles and garments, furniture and household appliances.

Foshan was not designated as being at the official forefront of reform and opening up from the beginning, but institutional power executed mainly by the local state has played a significant role in Foshan's industrialisation and development. At the start of the reform, grassroots cadres, as well as local entrepreneurs, grasped the window of opportunity and initiated the transformation of TVEs. Those local TVEs restructured the planned production and product categories according to the emerging demands of domestic consumers. During the process, local governments permitted individuals to sublease management rights. Some cadres even engaged in business operations as funders and organisers of TVEs. It encouraged initiatives in production and furthered liberalisation, resulting in the proliferation of TVEs in the 1980s. In addition, a large quantity of

industrial workers and management were trained by these TVEs, which benefited later development. As the TVEs became more and more defective and inefficient at the end of the 1980s and early 1990s, local governments launched ownership reforms to reduce their liabilities in a “financial albatross”. Ownership reforms since the early 1990s converted Foshan into a POEs-dominated economy. It served to promote the modernisation of management and operation of indigenous firms, and made substantial enhancements to productivity, which has been particularly recognisable after 2000. Meanwhile, the role of government in economic development has changed substantially from being a direct participant to a planner and public service provider. Although the ability of local governments to directly intervene in firms was greatly weakened by relinquishing their ownership, it offloaded a financial burden, and governments received more stable tax revenues and other revenues from firms that improved their performances.

The institutional power exercised by the local state in fact did not weaken after ownership reforms. Beijiao town, the specialised township of household appliances, has played a significant role in strategic coupling with the demands of GPNs. The township government implemented a strategy of “local champion” that fully supported a few firms, like *Midea*, to develop into a lead firm of a production network, and guided other SMEs to develop as its supplier. After building up a localised GPN of household appliance manufacturing with stable and collaborative relationships among actors, Beijiao government has forged a “headquarter economy” to respond to local rising production costs, and retained the most profitable part of firms. During the development process, the township government therefore displayed its strong capacity to promote value enhancements and capture within GPNs.

7.3 Conclusions from Comparative Studies of Dongguan and Foshan

Dongguan and Foshan have both achieved rapid industrialisation and regional development in various ways over the past thirty years. Through an analysis of industrial structure, efficiency and productivity, and financial performance, I have argued that the industrial development of Dongguan has maintained a strategy of utilising its “abundant labour supply”, while Foshan has engaged in a process of capital deepening since the mid-1990s, a process that became more pronounced after the completion of ownership reforms in the early 2000s. Furthermore, according to most indicators that use rates of a prefectural city’s value relative to the provincial value, the performance of Foshan has been superior to the provincial level, while Dongguan has been below the provincial level.

The industrialisation of Dongguan has actually been in line with a canonical neoclassical view, that is, following an economy’s given comparative advantage, and hence a pattern of specialisation dictated by the world market. Yet Foshan, which shared similar comparative advantages with Dongguan in the beginning, can be regarded as an example of “comparative advantage-defying” development (Lin and Chang, 2009). The quantitative analyses in Chapter Six show that Foshan has done better in overall efficiency, productivity and financial performance than Dongguan. This shows that the capital-deepening path of Foshan has had significant advantages in terms of overall efficiency compared with the labour-intensive path of Dongguan. Besides this, the industrial financial performance of Foshan has improved, even during the period 2008 to 2013 (with the exception of 2011) when China’s economy as a whole, and Guangdong’s, suffered from the effects of sluggish global and domestic markets.

The quantitative findings above will be specifically explained from the perspective of GPN. Foshan and Dongguan shared common regional assets when they began industrialisation and participated in the international division of labour, namely cheap production costs. Yet different regional assets have increasingly come to the fore in these two cities as they have developed along respective paths determined by their historical endowments and the intervention of institutions involved.

The notable regional asset of Dongguan is relatively lower-price production costs, composed of abundant supplies of labour, a highly accessible geographic location, large-scale agglomeration of suppliers, and favourable policy incentives (for example, the provision of export tax rebates). On the basis of regional assets, Dongguan is positioned as an export-oriented production base of processing and assembly by the TNCs, strategically coupling with a demand for massive production with competitive costs and on-time delivery.

Foshan's most significant regional asset is its large-scale group of indigenous firms that have engaged in almost all parts of the value chain—raw material trading, manufacturing, R&D, sales and marketing, and a well-developed domestic market distribution system. With the development of a few indigenous flagship firms, such as *Midea* and *Galanz* in the industry of household appliances, Foshan has built up some localised GPNs that have been led by indigenous firms, outsourced to both local and overseas suppliers, and targeted mainly at domestic markets and some overseas niche markets.

According to Coe et al (2004) and Mackinnon (2012), during the process of “fitting” regional assets with the strategic needs of GPNs, the bargaining power of regions is high

if their region-specific assets are complementary to the strategic needs of the lead firms of GPNs. In addition, Henderson et al. (2002) and Mackinnon (2012) suggest that the issue of value capture during this process highlights questions of ownership and control. The interaction between the two cities and inward FDI are good examples of how this argument may be elaborated.

In order to ensure their dominance in the value chain, and maintain their own profit-maximisation, TNCs have tended to separate parts of R&D, production and sales into different territories. As a result, the lead firms of GPNs have managed to control the authority of profit distribution while retaining the largest portion, at the same time as other participants have remained in relatively disadvantaged positions. Relying on its regional assets of low production costs, Dongguan has become a processing and assembly base controlled by TNCs. The OCIEs and FIEs that have dominated specialised townships of Dongguan are the third- and fourth-tier contract partners of GPNs, producing non-core units and accessories, and the indigenous firms that have grouped around them typically produce peripheral products for these overseas firms. This helps to explain why Dongguan has kept a lower value-added rate of processing trade relative to the national level. Meanwhile, the industrial structure of Dongguan has changed little over the years, by which it seems that Dongguan has been locked into the lower value-added part of the value chain. Judging from its position within GPNs, Dongguan has to a large extent not been directly articulated into critical tiers of GPNs yet, and few indigenous firms have become strategic partners of lead firms of GPNs. Therefore, although Dongguan generated substantial value during its industrialisation, being constrained as a part of processing and assembly within GPNs, it has limited capability to enhance and capture value constrained. It also leads to an asymmetrical power relationship between the dominant TNCs and passive local institutions in Dongguan,

which the former has more control over the issues while the latter has to rely on earning profits from the introduction of TNCs. This has also contributed to the relatively static evolution of Dongguan's regional assets.

Foshan has been more successful in enhancing and capturing value when it strategically couples with the development of GPNs. Unlike Dongguan, prosperous TVEs in Foshan during the 1980s have engaged in producing finished consumer goods. Since ownership reforms were implemented in the early 1990s, most TVEs have transformed into indigenously owned private firms. Under the selective support of local governments, the manufacturing sector in Foshan has developed integrated production networks with indigenous flagships and specialised suppliers, and some of which have become the lead firms of some GPNs. These firms have been able to retain large profits and value from within the region. In recent years, Foshan has made great efforts to introduce FIEs to promote industrial upgrading. Unlike Dongguan, the inclination of TNCs in Foshan has been linked to an intention to take advantage of Foshan's close ties with the rise of domestic markets. It is too early to make a judgement regarding the real effects of these FIEs on Foshan's economic growth due to a lack of continuous data over a long period. However, according to the investigation of Brandt and Thun (2010), market-oriented FDI, which aims to penetrate China's domestic market by selling their products locally, is very likely to generate spillovers through outsourcing and intensifying competition with indigenous firms. Hence, it can be assumed that Foshan firms may benefit from the interaction of market-oriented FIEs in the enhancement of their technological capabilities and competitiveness.

Therefore, a comparison between the two development cases of Dongguan and Foshan shows that ownership and local institutions have both played significant roles during their

industrialisation and regional development. Although they have had similar starting points and regional assets, the trajectories of Dongguan and Foshan have significantly diverged since the 1990s when China furthered its reform and opening up. Judging from what may well be unsustainable regional assets, Dongguan is likely to suffer a process of recoupling/decoupling with GPNs. Because of its better performance in regional development indicators, Foshan has offered a feasible alternative path than that which neoclassicism asserts to be the only path.

7.4 The implication of Dongguan and Foshan's development

The development of Dongguan and Foshan discussed in this thesis with reference to substantial quantitative analysis of regional industrial performance has enriched the literature on GPNs in terms of the conceptual extension and empirical context of China. The development paths of both Dongguan and Foshan are different from those of East Asian NIEs of the 1960s and 1970s. Dongguan is a typical case of a host region participating in the international division of labour over the last three decades, without substantial financial commitments and technological support offered by the state. With regard to this type of region, the introduction of export-oriented processing trade, and the strategic mixing and matching of external financial and technological forces, combined with cheap local production costs, has been an effective way to achieve economic take-off, industrialisation and urbanisation. However, the phenomenon of an easy “locking-in” situation controlled by TNCs has caused much controversy over the effects of globalised production on developing regions and countries.

In contrast to Dongguan's reliance on inward FDI and overseas markets, the story of

Foshan is more distinctive. Foshan achieved its industrialisation and regional development by exploring the uniquely vast Chinese market and overseas niche markets. This surely provides a model to aspire to for latecomers of GPNs which intend to pursue more diversified operations and profits. However, Foshan firms, in common with Asian lead firms discussed by Yeung (2007) face formidable challenges to establish themselves as global market leaders, especially when they globalise into regulated industries and competitive markets like North America and Western Europe. Hence, to become global market leaders in broader fields requires firms from developing regions and countries to focus on their core capabilities and to leverage their unique competitive advantages that can be transferred across national boundaries.

The role played by governments is critical in regional industrialisation and development. However, this role is not as absolute now as the role played by the states of East Asian NIEs in the early years. Nowadays, power is distributed among national and local states, international inter-state agencies, international and local non-state agencies, etc. Given this situation, it is therefore usually difficult to bargain and balance the interests claimed by different parties. The role of government may have been weakened. Even in China, with its government-driven economy, a large part of exercising authority has also been decentralised to local governments. However, in the case of Foshan, local governments still take considerable initiatives in facilitating regional development, even though they greatly reduced direct interference after ownership reforms. Through playing the role of industrial and urban planner, and public service provider (for example, by introducing fiscal incentives and research institutions), Foshan's local governments have successfully promoted regional assets to fit the strategic needs of GPNs. In the case of Dongguan, local governments have had heavy dependence on TNCs and have formed an asymmetric bargaining power that is likely an obstacle to the autonomy of its economy.

Besides this, compared with traditional products, industries that require modularised production are more likely to be adopted by developing regions and countries to achieve rapid catch-up or even leap-forward development through participating in GPNs. Since products consist of large numbers of units and parts, it is necessary to require inter-firm collaboration. Meanwhile, the production of entry-level parts is labour-intensive, and is more accessible for latecomers to develop. Electronics and household appliance products that enjoy more frequent updates have not only pushed faster development, but also keep pace with external (i.e. international) trends. Traditional products, like furniture and garments, which are more defined by the local economy and culture, and consumers' diverse requirements, tend to have greater differences when compared with their counterparts in western markets. Additionally, diversification and personalisation often found in modularised production also offers plenty of space for the development of latecomers. The case of Foshan's household appliance industry indicates that domestic market or niche products can make alternative good places to start.

7.5 Limitation of the thesis and prospects for future research

While many of the limitations of this research have been overcome, aspects of the study's results may be subject to improvement in the following ways. First, I have underscored township and prefectural governments when considering the power and effectiveness of local institutions towards regional industrialisation and development in this study. Although township governments are some of the most direct participants in specialised township economies, it can furthermore be argued that different institutional bodies have been involved in these industrial developments and have accordingly wielded power in

diverse ways. This is to say that institutional power may take different forms according to whether the institution in question is a provincial government, different departments of government, domestic and overseas associations of firms and chambers of commerce, or labour organisations and NGOs. To a certain degree, the actual development paths of regions could be the result of a compromise of conflicts of interests among all institutions. In this regard, it is especially worth noting that local governments (provincial, prefectural, township) have been much more active since 2000s than they were in the 1980s and 1990s, for example, the tough industrial upgrading policies carried out by Guangdong provincial government and the two prefectural government. Such initiatives are actually not unique in Guangdong province, but a prevalent phenomenon in developed coastal regions of China. Local governments have accumulated sufficient funds to be more proactive after 30 years' rapid economic growth, particularly in land reform since the mid-1990s, which enabled local authorities to generate large amounts of revenue from property taxes and land sales (Lin and Yi, 2011). Additionally, labour represented by the new generation of migrant workers has started to fight for workers' rights, sometimes accompanying sentiments against foreign capital. This is evident in the recent rise of labour protests (Chan and Ngai, 2009, Chan et al., 2013). Given the growing influence of emerging institutions with different interests, the first suggestion for future research is therefore to consider a more detailed classification of institutional influences when analysing local institutions, so as to distinguish the differences among them. Furthermore, future research should work to construct a more comprehensive analytical framework, taking into consideration conflicting interests among different state and non-state parties involved in industrial and regional development.

Second, lack of consistent and reliable data over long periods of time can only be interpreted in ways that are not penetrating enough. The elementary objective of the

specialised townships set up by Guangdong provincial government has been to promote the capability of technological innovation and regional development through agglomeration of specialised firms. However, due to a lack of applicable data, it is hard to conduct a more specific and firm assessment on regional capability related to upgrading and innovation. Furthermore, income level is a critical indicator of industrial and regional development. However, because Guangdong and Dongguan do not provide consistent wage-related data, there are regrettable limitations to drawing up a concrete comparative study on income level between the regions. Additionally, in this study, the lack of domestic sales data has to some extent weakened the solidness of the quantitative review of Foshan's domestic market-oriented economy. Hence, the second suggestion for future research is that large-scale on-site investigations are needed to explore where resources are allowed.

Third, the recent introduction of market-oriented FDI into Foshan in recent years is in stark contrast to Dongguan's, which has been dominated by production-oriented FDI in the past few decades. However, it is too early to assess the effectiveness of those selective foreign projects in Foshan since most of them had not begun operations before the 2010s. This topic is therefore worthy of further investigation, and has great potential to bring more insights to the study of industrialisation and regional development of Guangdong and China.

Appendix 1 A list of interviewees

1. Interviewee A, a Hong Kong investor in Dongguan, Representative of Dongguan City Association of Enterprises with Foreign Investment (DGAEFI), Dongguan, August, 2013.
2. Interviewee B, a Taiwanese investor in Dongguan, representative of the Dongguan Taiwanese Businessmen Association, Dongguan, August, 2013.
3. Interviewee C, a managing staff working in a domestic private-owned export-oriented firm, Dongguan, August, 2013.
4. Interviewee D, a news reporter worked for a Hong Kong-based newspaper during the period of 2005-2013. Interview via Skype, London, January 2015.
5. Interviewee E, a customs officer, Guangzhou, August, 2013.
6. Interviewee F, the representative of a town-level chamber of commerce furniture, Foshan, August 2013.
7. Interviewee G, a town-level government official, Foshan, August 2013.
8. Interviewee H, a news reporter has worked for a Hong Kong-based newspaper since 2003, Guangzhou, August, 2013.

Appendix 2 Data sources of the case study

Shijie county, Dongguan

- Interviews
- The website of the People's Government of Shijie⁹⁷
- *The updated report of the Pearl River Delta model: the transition path of the world factory*, news story published on the website of China Review News Agency⁹⁸.

Shunde district, Foshan

- Interviews
- The statistics reports of Shunde Department of Planning and Statistics (2010, 2011a, 2011b)
- The report of Shunde furniture design institute, Shunde furniture association & Lecong furniture association (2014)
- The website of the Midea Group⁹⁹
- *Beijiao, Shunde: the central business district welcome guests*, news story published in Guangzhou Daily (Yu, L., & Niu, B., 2014)
- *The industrial output value of the "eight-year old" Bear had exceeded 300 million yuan*, news story published in *Nanfang Daily News* (Zhang and Chen, 2014).

⁹⁷ The People's Government of Shijie. Dianzi Xinxi Chanye [The Electronics Industry]. Accessed July 15th, 2014. <http://shijie.dg.gov.cn/desktop/publish/FileView.aspx?CategoryID=2&PageID=3>.

⁹⁸ CRNTT.COM. Zhushan jiao Moshi zai Baogao: Shijie Gongchang Zhuanxing Lujingtu [the updated report of the Pearl River Delta model: the transition path of the world factory]. September 8th, 2008. Accessed September 1st, 2014. <http://hk.crntt.com/doc/1007/4/0/7/100740712.html?coluid=7&kindid=0&docid=100740712>.

⁹⁹ Midea Group. Midea History 1968-2014. Accessed February 10th, 2015. http://www.midea.com/cn/about_midea/history.shtml.

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