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Regional economic policy and regional income inequality in the People's Republic of China

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REGIONAL ECONOMIC POLICY AND REGIONAL INCOME INEQUALITY IN THE PEOPLE'S REPUBLIC OF CHINA

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ABSTRACT

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This study is a descriptive analysis of regional development policies and their spatial outcomes in the People's Republic of China. It traces the history of China's regional economic development, and investigates regional income inequality in China by examining empirical evidence.

Two distinctive regional economic policies are identified associated with two time periods in history. The pro-interior regional economic policy pursued in the pre-reform era (1949-1978) emphasized regional equality over economic efficiency, and diverted massive amounts of industrial investment to the interior provinces from the more developed coastal region. The pro-coast regional economic policy of the reform era (after 1978), on the contrary, gave priority to economic efficiency over regional equality, and concentrated state industrial investment in the coastal provinces.

An examination of empirical evidence indicates that the pro-interior regional economic policy did not bring about improvements in provincial income inequality. Both absolute and relative measures of provincial income inequality increased during the pre-reform era. Surprisingly, provincial income inequality decreased in the early reform era until the early 1990s as a result of rapid growth of the previously less developed provinces in the coastal region and slow growth of the industrially more developed provinces. However, a widening of regional income gap is inevitable given the pro-coast regional economic policy and it will remain a long-term phenomenon in China.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRAITONS

CHAPTER ONE

INTRODUCTION

Background

In 1949 the government of the People's Republic of China inherited an economy in which most of the economically developed areas were concentrated on the eastern coast and in large cities. This pattern of uneven regional development was incompatible with the socialist ideology of equality among people, classes and regions. The Chinese leadership took it upon themselves to eliminate the three big differences: the difference between industrial workers and peasants; the difference between urban and rural areas; and the difference between manual and mental work. In order to reduce regional economic inequalities, the Chinese government devised a new regional economic policy that diverted resources from the coast to the interior. During the First Five-Year-Plan (1953-1957), two-thirds of the major industrial projects and more than one-half of total

industrial investment were located in the interior (Kirkby 1985, 138).

The Vietnam War and the worsening relationships with the Soviet Union and the United States in the 1960s made the Chinese government extremely sensitive to the possibility of a "Third World War". National defense emerged as a priority in China's regional economic policy. Avoiding the vulnerable large coastal cities (First Front) and their adjacent areas (Second Front), the construction of Third Front projects in remote sites of China was carried out from the early 1960s and to the mid-1970s. Investment was diverted to the construction of industries, especially large capital projects such as iron and steel and military machinery, in interior locations that were less vulnerable to foreign attacks. These Third Front industrial projects tended to be located in "shan, san, dong" sites, which means "in mountains, in dispersion, in caves".

Thus, regional economic policy during the three decades after Liberation in 1949 was largely driven by egalitarian ideology and defense concern. Whether the policy decreased regional inequalities of economic development is controversial. Some studies conclude that the pattern of uneven regional economic development, caused by the establishment of the treaty ports at the end of the Qing

Dynasty, was completely corrected by the end of the three decades after Liberation (Li 1992, 50, 53). Other studies argue that uneven regional economic development did not change significantly during this period despite spatially biased investment policy. Some decline in interprovincial inequalities occurred during the 1960s (Lardy 1980; Riskin 1987), but this trend did not continue. Substantial inter-provincial inequalities remained in the 1970s and 1980s (Paine 1981; Lyons 1991; Tsui 1991).

Regional economic development policy during Mao Zedong's time seems to have achieved some degree of regional economic equality although at the expense of efficiency (Yang 1990, 240). After thirty years of biased regional economic policy, the coastal region still produced about 60 percent of China's industrial output (Zen and Liang 1994, 16). The failure of this regional economic policy in bringing about national economic growth has been widely criticized (Zhang 1989, 71), especially the Third Front program. According to Barry Naughton, China's industrial output is 10 to 15 percent below what it would have been if the Third Front program had never been undertaken (Naughton 1988, 379).

Since the rise of China's paramount leader Deng Xiaoping at the end of 1978, and with the introduction of

the reform and open-door policy, fundamental changes have occurred in China's regional economic development philosophy and policy. The new regional economic development policy, emphasizing efficiency over equality, has encouraged economic growth in coastal regions, expected and tolerated uneven regional economic development in the hope that growth would eventually diffuse to the interior.

Western regional economic development theories have greatly influenced the development philosophy of the reform era. These include the notion of Cumulative-Circular Causation (Myrdal 1957), Growth Pole Theory (Hirschman 1958, 183-201), the Inverted-U Model (Williamson 1965), and the Core-Periphery Model (Friedmann 1966, 60-101). These models are discussed in Chapter Two.

The Three-Economic-Region Model was the blueprint for Chinese regional economic policy during the 1980s (Figure 1). The sixth Five-Year-Plan (1981-1985) first proposed the division of the country into three large regions for purposes of economic development, namely, the Eastern, Central, and Western Regions. The Seventh Five-Year-Plan (1986-1990) officially adopted this model. The model is based on the concepts of comparative advantage and regional division of labor: the Eastern region would specialize in export-oriented industries and foreign trade; the Central

Figure 1. The three economic regions, open coastal cities, and open economic zones of China. Source: Fan 1997, 624.

Region in agriculture and energy; and the Western Region in animal husbandry and mineral exploitation (Beijing Review 1986a; 1986b). Foreign trade and industrialization in the Eastern Region is expected to initiate national economic growth, and this growth is expected to diffuse to the Central and Western Regions given time. Yet the mechanisms for bringing about diffusion have hardly been discussed in the literature.

The Ladder-Step Theory has been an important guide for regional economic policy makers in the reform era. This theory gives the Eastern Region priority of development. It maintains that, over time, economic growth will diffuse from the coast to the interior in a way like descending the steps of a ladder (Yang 1990, 244-246).

Export-led growth in the Eastern Region has been greatly facilitated by the establishment of various open zones along the coast (Figure 1). These include the five Special Economic Zones (SEZs) of Shenzhen, Zhuhai, Shantou, and Xiamen designated in 1979, and Hainan in 1988. In addition, fourteen Open Coastal Cities (OCCs) were designated in 1984. Various other open zones were selected including the three Coastal Economic Development Zones (CEDZS) of the Yangtze, Pearl, and Min River deltas. These

open zones enjoy various preferential policies from the state, and foreign investors were given special treatment, such as, tax exemptions, and import duty reductions. To promote these zones, the state allocated large investments to improve their infrastructure. As state and foreign investments boosted economic growth, these zones became China's "golden coastline", a popular term that first appeared in People's Daily, overseas edition, dated Jan. 22, 1992.

Given the regional economic policy of the reform era and the regional economic development theories on which it is based, one would expect an increase in regional economic inequalities in China. There seems to be a consensus of opinion that regional economic inequalities decreased during the thirty years after Liberation in 1949, and that they have been increasing since the implementation of the reform and open-door policy at the end of 1978. Yet empirical studies regarding regional economic inequalities in China have reported mixed results. Some studies report a decline (Yang 1992; Zen and Liang 1994), others an increase (Chen et al. 1993).

The issue of regional economic inequalities in China is a complicated one. The above consensus is over

simplistic. The extent of regional economic inequalities depends on which regional unit is examined. Regional economic inequalities could be the disparities between the three economic regions, between the provinces, or between the counties within a province. Most studies agree that since reform there has been a widening of development gap between the coast and the interior. But when it comes down to provincial or county level, the story is more complex and worth our attention.

Statement of Purpose and Methodology

The primary goal of this study is to examine some aspects of the regional economic development in China since 1949. This study utilizes an extensive library search for literature in both English and Chinese. Much of the research focuses on regional economic development literature and, to a significant extent, on regional economic development models. One of the difficulties in studying aspects of China is acquisition of data. This necessitated substantial use of the interlibrary loan opportunities at the University of Montana.

Chinese studies in general often lack a regional dimension. Though regional economic policy is only one

component in the package for China's national development, its importance has not always been appreciated. There are fifty-six ethnic groups in China, and most of the minority groups live in the poorer interior regions. Regional economic policy must cater to a variety of ethnic and interest groups so as not to cause social instability and conflicts between regions, a prerequisite for a healthy national economy.

In the course of a nation's economic development, there seem to be tradeoffs between growth and equality. In China's case, there has long been a set of conflicts over regional economic policy. The controversial question is: should there be regional economic specialization based on comparative advantage, which would allow faster economic growth in the more efficient coastal region, or, should there be a more equitable regional economic policy even if it is not as efficient?

In order to answer this question, an examination of China's regional development history is indispensable. From the time the People's Republic of China was founded to the current day, two distinctive regional policies can be identified. They are associated with two time periods in history. In this study the two time periods are called the

"pre-reform era" (1949-1978) and the "reform era" (after 1978), with the rise of Deng Xiaoping and his reform policy in 1978 as the demarcation line. Emphasizing egalitarianism and national defense, the pro-interior regional economic policy pursued in the pre-reform era diverted massive flows of industrial investment to the interior provinces from the more developed coastal regions. The pro-coast regional economic policy of the reform era, however, concentrated state industrial investment in the coastal provinces, placing more importance on efficiency than on equality.

To evaluate spatial impacts of the above two policies, a collection and review of empirical evidence is a critical next step. The questions that have to be answered at this stage of the research are: 1) Did the pro-interior regional economic policy of the pre-reform era succeed in narrowing regional economic inequalities? 2) Has the pro-coast regional economic policy of the reform era increased regional economic inequalities? The absence of evidence showing significant reduction in regional inequalities in the pre-reform era would discredit the pro-interior regional economic policy, and the presence of such evidence would give credit to the policy. An increase in regional

economic inequalities in the reform era was expected. An examination of empirical evidence will suggest if reality corresponds with the expectation.

To summarize, this research is a descriptive analysis of regional economic development policies and their spatial outcomes in the People's Republic of China since 1949. It traces the history of regional economic development in China, and analyzes the spatial impacts of Chinese regional economic policies by examining empirical evidence. As a citizen of China, I hope to provide the reader with a treatise regarding China's regional economic development and planning, so as to assist in a better understanding of the most populous nation in the world.

CHAPTER TWO

LITERATURE REVIEW

Theories of Regional Economic Development

The 1960s saw a proliferation of regional development theories in the West, some of which served as theoretical justification for the regional economic development philosophy of the reform era. These include the notion of Circular and Cumulative Causation (Myrdal 1957), Growth Pole Theory (Hirschman 1958, 183-201), the Inverted-U Model (Williamson 1965), and the Center-Periphery Model (Friedmann 1966, 60-101).

The birth of regional development as a field of study is often dated as 1958, corresponding with the publication of Gunnar Myrdal's *Economic Theory and Underdeveloped Regions* in 1957, and Albert Hirschman's *The Strategy of Economic Development* in 1958 (Malecki 1991, 25).

Gunnar Myrdal's (Myrdal 1957) Circular and Cumulative Causation Model is a model of unbalanced growth. It

suggests that if a region gains some initial economic advantage, new growth and the benefits of multiplier effects will tend to concentrate in this already expanding region, rather than in other regions. Growth becomes self-reinforcing with strong endogenous forces tending to increase regional differentials in productivity growth, which may persist for a long time. Regarding the spread effects (the ability of the expanding region to radiate its growth outward into the surrounding space), Myrdal thinks that "the higher the level of economic development that a country has already attained the stronger the spread effects will usually be (Myrdal 1957, 34)".

The modern development of the Growth Pole Theory is attributed to a French economist, F. Perroux, who believed that "growth does not appear everywhere and all at once; it appears in points or development poles, with variable intensities; it spreads along diverse channels and with varying terminal effects to the whole of the economy (Glasson 1975, 145)". J. Boudeville, another French economist, defines a regional growth pole as a "set of expanding industries located in an urban area and inducing further development of economic activity throughout its zone of influence (Glasson 1975, 145). Albert Hirschman (Hirschman 1958), Gunnar Myrdal (Myrdal 1957), and Harry

Richardson (Richardson 1976) further refined and developed the basic concepts of Growth Pole Theory.

Albert Hirschman believes that development often begins with the sudden, vigorous, and nearly spontaneous growth of one or a few regions or urban centers. Therefore, "whatever the reason, there can be little doubt that an economy, to lift itself to higher income levels, must and will first develop within itself one or several regional centers of economic strength" (Hirschman 1958, 183).

Regarding the interplay of polarization effects (the ability of leading industries to attract other economic units into the growth pole) and spread effects, Hirschman contends that if the pole region had to rely to an important degree on products from the peripheral region for its own expansion, the trickling-down or spread effects would gain the upper hand over the polarization effects. But if the functioning of market forces results in a temporary victory of the polarization effects, deliberate economic policy will be employed to correct the situation. He believes that economic policy should be an important influence throughout the process of regional economic development.

Hirschman suggests a strategy of phasing the investment process over regions, concentrating initially upon the points of rapid urban-industrial expansion, and then moving

outward into the periphery. Although public investment policy may cause substantial regional disparity at one stage, such a situation will not persist in the long run because of government's concern over equality and national cohesion.

Jeffrey Williamson's Inverted-U Model (Williamson 1965) describes an expected pattern of regional economic growth with an initial divergence followed by convergence during the course of economic development. He presents a hypothesis that the early stages of national development would generate increasingly large regional income differentials. Somewhere during the course of development, some or all of the disequilibrating tendencies diminish, causing a reversal in the pattern of interregional inequality, with the backward regions closing the development gap between themselves and the already industrialized areas. According to Williamson, "the expected result is that a statistic describing regional inequality will trace out an inverted 'U' over the national growth path; the historical timing of the peak level of spatial income differentials is left somewhat vague and may vary considerably with the resource endowment and institutional environment of each developing nation (Williamson 1965, 10)." Based on his empirical study, he

concludes that "rising regional income disparities and increasing North-South dualism [the coexistence of wealthy and poor regions in a country, with North being wealthy regions, and South poor regions] is typical of early development stages, while regional convergence and a disappearance of severe North-South problems is typical of the more mature stages of national growth and development (Williamson 1965, 64)".

The spatial structure of economies that are in transition to industrialism is best described by a Center-Periphery Model. John Friedmann states that "a powerful central region reduces the rest of the space economy to the role of a tributary area that is drained of its resources, manpower, and capital (Friedmann 1966, 99)." The Center-Periphery Model is a spatial disequilibrium model. According to Friedmann, "this disequilibrium is a structural one. As a result, the automatic working of the market does not reestablish a spatial equilibrium but reinforces the initial structural imbalance. Even when equilibrating tendencies persist, a balanced interregional system may require several generations to come into existence (Friedmann 1966, 99)." Friedmann contends that a continuing center-periphery relation is harmful to a country, and that regional economic policy seeks to influence economic

activity by guiding public investments. Core regions perform a critical role in generating impulses of economic development and transmitting them to the periphery of the space economy. According to Friedmann, "national economic development is, to a large extent, identical with the development of core regions. From one fourth to one third of national investment may be spent there, and for good reason. For core regions perform a critical role in the process of industrialization and are major centers for trade, finance, and government activities (Friedmann 1966, 66)."

The above four development theories all agree to the following: 1) Growth begins in a few growth poles or growth centers. 2) At the early stages of development, polarization effects are stronger than spread effects because of the benefit of an agglomeration economy, which causes regional income inequality to rise. 3) In the long run, growth will spread from the center to the periphery, reducing regional income disparity. 4) Regional economic policy influences regional economic development by guiding public investment.

The above, so-called "stages-of-development" models, greatly influenced regional economic development policy of the reform era. From the standpoint of these models, China, being a developing country, is at an early stage in the

economic development process. Therefore, an increase in regional economic inequalities is inevitable in the short term. These models served to legitimize the new Chinese regional economic policy aimed at achieving efficiency at the expense of equality through national investment in state-selected growth poles along the coast of China. Based on these models as well as classical theories of economic development, China's new regional economic policy emphasized comparative advantage, regional specialization, and division of labor. As a result, a variety of new regional economic development models emerged. Two new models of Chinese regional economic development, the Three-Economic-Region Model, and the Ladder-Step Theory, will be discussed in Chapter Four.

Previous Studies

There is a large body of literature regarding regional economic development in China. For Chinese studies in general, it is said that one should look for archival sources in the West, do field work in China, receive language training in Taiwan, and enjoy research opportunities in Hong Kong. The following literature review is from both Western (American and British) and Chinese (mainland and Hong Kong) sources. It is reviewed in the

alphabetic order of the authors' last names.

Kam Wing Chan (Chan 1992) studies the urbanization policies of the pre-reform era. He finds that China was highly effective in simultaneously fostering rapid industrial growth and slowing urban growth. This "anti-urbanism" or "industrialization without urbanization" was achieved through mass urban population removal to the countryside, strict bans on urban in-migration, suppression of the expansion of urban service employment and personal consumption in general, and promotion of rural industrialization. These "anti-urban" measures were seen as the logical results of Mao Zedong's scheme to promote greater rural-urban balance. Yet according to Chan, most of these measures are arguably "urban-biased" and they tend to reinforce urban-rural disparities and protect existing privileges of the urbanites.

Cindy Fan (Fan 1995b) describes and analyzes the patterns of and changes in uneven regional development at three different regional levels: a study of interprovincial income inequality, a study of intraprovincial inequality for five provinces, and a detailed case study of Guangdong Province. She concludes that the reduction in interprovincial income inequality in China since 1978 is the result of rapid growth in previously less developed eastern

provinces (Guangdong and Fujian), and slow growth in previously more developed regions (the three municipalities of Beijing, Shanghai, and Tianjin, and the three northeastern provinces of Heilongjiang, Jilin, and Liaoning). She also points out that interprovincial analysis is not adequate for explaining uneven regional economic development in China. At the county level, the story is more complex. Her case study of five provinces provides some evidence of the diffusion of growth from Shanghai to neighboring areas, while Guangdong moved in the direction of growth polarization.

Her other paper (Fan 1995a) offers an explanation for Guangdong Province's growth polarization in comparison with a more balanced growth pattern in Jiangsu Province. Her empirical analysis of the data for the 1980s indicate that spatial income inequality in Jiangsu Province has declined as a result of local investment in township and village enterprises. This is called development from below (DFB). Guangdong, on the other hand, has seen an escalation of spatial income inequality and a concentration of economic growth in the Pearl River Delta area, which is strongly related to state investment and foreign investment. This is called development from above and development from outside (DFA and DFO). These findings support her hypothesis that

DFA and DFO tend to increase spatial income inequality, while DFB is accompanied by a more balanced spatial economic development pattern.

Nicholas Lardy's work (Lardy 1980) was the first to provide a detailed and systematic account of China's regional economic inequalities. He concludes that regional income inequality was reduced over time during the pre-reform era. He calculated population-weighted coefficients of variation for 1952, 1957 and 1974 based on industrial output data. His index shows a declining trend over time.

Li Si-Ming (Li 1996) explains why there is a fundamental paradox in China's regional economic development in the reform era. At the provincial level, regional income gaps surprisingly narrowed in the 1980s when the pro-coast regional economic policy was implemented. One explanation Li offers for the existence of this paradox is the relative slow growth of the three municipalities and the three northeastern provinces and the rapid growth of originally less developed Eastern provinces.

Li Wen-Yan (Li 1990) points out that the Great Leap Forward (explained in Chapter 3) from 1958 to 1960 and the Third Front construction from the early 1960s through the mid-1970s had serious negative effects despite some positive results. According to Li, "neither nationwide high growth

rate nor a more even spatial distribution of heavy industry was realized (Li 1990, 63)." The Third Front program "did to some extent promote the economic development of the inland provinces but the result was not as large as expected and was gained at the expense of nationwide economic growth (Li 1990, 63)."

Li Zhengquan (Li 1992) holds an orthodox Chinese opinion that the first thirty years of China's development resulted in a more evenly spread industrial distribution. Yet he criticizes the Third Front program, and admits that equality was achieved at the expense of efficiency.

Thomas Lyons (Lyons 1991) examines regional economic growth and interregional economic disparities in China from 1952 to 1987, and finds that every province experienced substantial real growth over this period. The provinces, however, differed quite widely in terms of overall growth rates and rates of industrialization. According to Lyons, "in general, the less-developed provinces did not narrow the absolute gaps between themselves and those that were ahead in the 1950s (Lyons 1991, 498)." He concludes that "China's experience since the 1950s has been quite respectable; at least in term of regional disparities, it does not constitute a clear triumph of inequality (Lyons 1991, 499)." However, the absolute gaps between richest and poorest

provinces widened considerably between the 1950s and the mid-1980s.

Barry Naughton (Naughton 1988) describes the origin, development and legacy of the Third Front program. He argues that the Third Front greatly increased the costs of industrialization by shifting construction to substantially more remote locations in the interior. According to Naughton, "China's annual industrial output is currently 10-15 percent below what it would have been if the Third Front had never been undertaken, and that investment had been used in other inland locations (Naughton 1988, 379)." Moreover, the Third Front reduced the efficiency of investment in First and Second Front areas as well, which added to its cost.

Suzanne Paine (Paine 1981) studies the time period from 1949 to 1979, and finds that certain key spatial inequalities in China have narrowed over this period as a whole, although progress has been uneven.

Carl Riskin (Riskin 1987) looks into income distribution from 1957 to 1979 at five scales: interregional, inter-local, urban-rural, personal and inter-class. Regarding interregional income disparity, he finds that all of the relative measures of inequality (for example, the coefficient of variation) were either declining

over the period or at least remaining constant. The absolute difference in yuan (Chinese currency) between the highest and the lowest per capita provincial industrial output widened considerably from 1957 to 1979. Based on different findings at different scales, he concludes that no simple conclusion about the degree of equality achieved can be drawn. According to Riskin, "perhaps the least complicated and most significant general conclusion" is "that China's poor emerged from the Maoist era significantly better off than the poor of most other developing countries. But poverty remained...(Riskin 1987,250)."

Kai Yuen Tsui (Tsui 1991) explores the change in regional economic inequality in China from 1952 to 1985. His empirical study suggests that interprovincial income gaps did not narrow between 1952 and 1985. Regional income inequality definitely increased since 1970 because the redistribution of income from the rich to the poor provinces by the central government was not significant enough to reduce inequality over the long run.

Yang Dali (Yang 1990) compares and contrasts China's approaches to regional industrial development in the pre-reform era and reform era. Yang argues that the pre-reform regional policies combined features of a Soviet-style development strategy with Mao's ideas of egalitarianism and

self-reliance, but "ended in the worst of both worlds (Yang 1990, 240)." These policies seem to have achieved some degree of regional equality, albeit at the expense of efficiency, because the national economy would have grown faster if investment had been made in terms of efficiency. In the reform era, the central government has favored the coastal region through state investment and preferential policies. Since efficiency was emphasized over equality in the reform era, "regional growth has been and will continue to be uneven and the gap between the regions will perhaps widen at an accelerating rate (Yang 1990, 250)."

Zen Juxing and Liang Bin (Zen and Liang 1994) argue that the regional development process in China does not follow Williamson's Inverted-U Model. Instead, an "M" model and a "W" model are suggested for interprovincial income disparity and the disparity between the three economic regions respectively. Zen and Liang predict that regional gap in economic development will continue to enlarge in the future.

Zhang Shuguang (Zhang 1993) points out that regional income inequalities measured by Net Material Product (NMP) and by National Income Utilized (NIU) tell different stories. NMP refers to the nominal gross value of output minus nominal material consumption, and NIU is the sum of

public and private consumption plus saving. The difference between the two may be regarded as government transfers, which, for example, would normally be negative for Shanghai, reflecting a net outflow of resources, and positive for Tibet, reflecting a net inflow of resources. During 1952-1978, regional income inequality measured by NIU per capita was apparently decreasing, while that measured by NMP per capita was increasing, reflecting an increasing gap in regional production efficiency. During 1979-1990, however, the central government limited its role in income redistribution. As a result, regional income disparity measured by NMP decreased between provinces and the three economic regions, while that measured by NIU obviously increased, suggesting an enlarging regional income gap.

CHAPTER THREE

PRE-REFORM ERA, 1949-1978

A Command Economy

The Chinese economic system in the pre-reform era (1949-1978) was a variant of the Soviet-style command economy. Command economies share two basic characteristics. First, resource allocation decisions are made in response to commands from central planners rather than in response to markets. Second, a large volume of resources is concentrated in the hands of central planners, who redistribute resources into selected investment programs (Naughton 1996, 26). Command economies are also called centrally planned economies.

The Chinese command economy was not an identical twin of the Soviet command economy. In fact, China did not follow the Soviet model closely except for the First Five-Year-Plan (1953-1957). China and the Soviet Union had different factor endowments. In addition, China had a much

larger rural population, and was much poorer than the Soviet Union. Consequently, the Chinese planning system was less centralized than that of the Soviet Union.

The development strategy of the Chinese command economy was designed to achieve maximum growth of industrial and military capacity as rapidly as possible. A massive flow of investment was directed into capital-intensive productive facilities and concentrated in the goods-producing sector. This development strategy attempted to maximize growth of industry at the expense of development in other areas, for example, agriculture and social services. Basic health and education were widely provided at an early stage of development, but provision of high-level services, for example, higher education, sophisticated medical services, etc., was subsequently neglected. This heavy-industry centered strategy was incompatible with China's factor endowment. Unlike the Soviet Union, China was rich in manpower, but desperately short of capital and productive land. A development strategy focusing on labor-intensive industries would have been more appropriate to China's factor endowment. But the Chinese leadership adopted a Soviet-style development strategy, partly because of the prestige of the Soviet Union in the socialist world and

partly because of their own great power aspirations (Naughton 1996, 28).

Under the Chinese command economy the government had direct control over raw material flows, manpower, and money. Public ownership, in the form of state ownership of large-scale industry and commerce and collective ownership of agricultural production units, guaranteed state control of resources. A planning device was set up to direct resources to central planners' priority uses.

Since the objective of pumping resources into heavy and military industries was most important, a redistribution system was extremely desirable for the Chinese command economy. The redistribution system had a unique set of macroeconomic characteristics. First, the government share of national income was large, while the household share of national income modest. Households controlled only 55 percent of disposable national income in China in 1978 (Naughton 1996, 31). Second, household saving was small, and the bulk of national saving was carried out by state-owned enterprises. Third, state investments were mostly financed by transferring state enterprise revenue to the budget. The taxation system was not explicitly developed, but was rather implicit in the price system controlled by the government. Fourth, bank lending was restricted to

short-term finance of trade and inventories. Fifth, shortages and lengthy queues for consumer goods were a common scene at the time. These shortages were mainly caused by the government channeling so many resources into heavy and military industries that there was little left for households. (Naughton 1996, 31-33).

Major Changes in Economic Policies

Although the command economy was consistently pursued during the pre-reform era, this time period did not lack policy shifts in development approaches. The pre-reform era can be divided into at least five major subperiods with different problems, goals, strategies and policies. They are the Period of Reconstruction, the First Five-Year-Plan, the Great Leap Forward, the Period of Depression, Readjustment, and Recovery, and the Cultural Revolution. According to Barry Naughton, "the Chinese government, like governments everywhere, made vital economic decisions with inadequate information, often in near-crisis situations, and subject to numerous economic and non-economic constraints (Naughton 1996, 23)." Therefore, Naughton views Chinese policymakers as lacking rationality. During the pre-reform era, the Chinese pursued quite different strategies at different subperiods. Some of Beijing's policy changes were the result of a natural process of trial and error; others,

however, were the result of serious differences within the Chinese leadership (Barnett 1976, 1).

The Period of Reconstruction, 1949-1952

In 1949, when the People's Republic of China was founded, the new government inherited a badly disrupted, imbalanced and underdeveloped economy. Their initial objective was simply to restore agricultural and industrial production to some sembalance of normal levels. The first three years were a period of recovery and reconstruction from a war-torn economy. China's new leadership was able to achieve their basic recovery goals with remarkable speed and success. The existing nationwide transportation and communications facilities were reopened. Inflation was quickly brought under control, and fiscal and monetary stability was restored. According to A. Doak Barnett, production in both the cities and the countryside reached past peak levels in many major sectors by 1952 (Barnett 1976, 2).

The First Five-Year-Plan, 1953-1957

China's First Five-Year-Plan was closely modeled on the Soviet approach. The plan gave clear priority to industry over agriculture, to heavy capital-goods industries over light consumer-goods industries, and to capital-intensive

enterprises over labor-intensive enterprises. The First Five-Year-plan's investment in agriculture was only 8 percent against 40 percent in industry, 11 percent in transportation, and 18 percent in public health, culture and education (Farina 1980, 488). Greater emphasis was placed on urban than on rural development.

The First Five-Year-Plan regarded the concentration of Chinese industry in the coastal regions and in a few big cities as unfavorable, both to the economy and to defense. Its regional policies were aimed at dispersing industry to the interior and finally at overcoming regional inequalities between industrialized and non-industrialized provinces. Inland provinces, the source of only 27 percent of industrial output in 1952, received 55 percent of national industrial investment during the first three years of the First Five-Year-Plan (Lardy 1980, 174). Among the 694 major industrial projects of the Plan, 472 (68 percent) were situated in the interior provinces (Farina 1980, 485-486). These projects were concentrated in so-called "key cities" rather than evenly spread in the interior. During the First Five-Year-Plan, eighteen key cities were selected as recipients of enormous investment funds for both infrastructure and industrial development. Most of them were large cities in the interior. Two hundred complete

plant projects were constructed with the assistance of the Soviet Union and some Eastern European countries. These projects formed the core of the First Five-Year-Plan, and were heavily concentrated in key cities (Lardy 1980, 176).

In many respects, the First Five-Year-Plan was a great success. A highly centralized system of economic planning was established. The Plan initiated a rapid growth rate of 6 to 8 percent annually (Barnett 1976, 3). In only a few years, the Chinese built a new and much more diverse industrial base than it had had before.

However, the economic problems that had become apparent at the end of the First Five-Year-Plan were numerous. Agricultural output was lagging badly. Continuing population growth and internal migration from the countryside to the cities resulted in rapid urbanization and growing unemployment in the cities. Mao Zedong and other Chinese leaders became increasingly disturbed by what they saw as the undesirable political and social consequences of following the Soviet model. China's Soviet-style planning system encountered many difficulties, which created serious doubts about the degree of centralization. In 1957, a fairly extensive program of fiscal decentralization was adopted. The Chinese government meant to solve the unemployment problem during the First Plan period, but it

failed and was compelled to delay this task to the next plan.

The Great Leap Forward, 1958-1960

After the completion of the socialist transformation of industry, agriculture and commerce in 1957, the Chinese leadership, especially Mao Zedong, decided to abandon the Soviet model, and to adopt a new development strategy. In order to solve the problems that appeared during the First Five-Year-Plan, Beijing decided to "walk on two legs", that is, to spur growth in both agriculture and industry, and in both large-scale and small-scale industry, using both modern and indigenous methods. This became known as the Great Leap Forward. The policies of the Great Leap Forward included People's Communes, fiscal decentralization, and the establishment of small local industries. The Maoist concepts of radical egalitarianism and self-reliance was emphasized during this period.

The Great Leap Forward and the Commune program represented radical attempts to solve real problems. They were intended to provide more economic opportunity throughout rural China. Barnett stated it well when he wrote, "the regime attempted to do too much, too fast, by untested methods; and on balance the effort was a failure (Barnett 1976, 4)." The planning and statistical system

broke down. The nation's transport system and economy as a whole were badly disrupted. The Communes proved to be unworkable, so did many of the small local industries, such as the so-called "backyard steel furnaces". According to James Grant, "the effort created some jobs, but only at the cost of a lower quality and higher-cost product (Grant 1973, 15)".

Given the problems and policies of the Great Leap Forward and the three subsequent years of bad weather, a famine occurred during 1959-1961 when thirty million people starved or died from disease. Moreover, Moscow's withdrawal of all of its technicians and economic aid from China in 1960 crippled many Chinese industries.

Depression, Readjustment, and Recovery, 1961-1965

The Great Leap Forward was followed by a socialist equivalent of an economic depression. It was not only economic stagnation but retrogression as well. Agricultural output dropped drastically followed by industrial production. Table 1 shows that per capita NMP growth rates dropped to about 3 percent for the Eastern, Central, and Western Regions. Malnutrition was widespread, and morale was extremely low.

To cope with the depression and to stimulate recovery, a new development strategy was implemented, focusing on

Table 1

Growth Rates of Net Material Product[a] Per Capita (%)

	Eastern Region	Central Region	Western Region
First FYP[b] (1953-1957)	7.12	6.96	10.82
Great Leap Forward and Readjustment (1958-1965)	2.94	3.12	3.72
Third FYP[b] (1966-1970)	4.08	3.16	0.79
Fourth FYP[b] (1971-1975)	4.79	2.44	2.67

Source: Li 1996, 26.
[a] Net material product is a surrogate for income.
[b] FYP refers to Five-Year-Plan.

immediate problems of economic survival. Some of the policies during this period represented compromise between the approaches of the First Five-Year-Plan and those of the Great Leap Forward, but other policies involved major changes in the state's priorities. For the first time, top priority was assigned to agriculture. Light industry was given second priority, and heave industry, third. The military industry, however, continued to receive relatively high priority. Although the Chinese continued to stress self-reliance because of the Sino-Soviet split, foreign trade was expanded with non-socialist countries rather than with the Soviet Union and Eastern Europe.

The new policies stimulated recovery and renewed growth. China's agricultural production began to turn upward after the depression, followed by industrial and overall

national output. This upward course continued until 1966 (Barnett 1976, 5).

The famine forced many to move to the cities in search of better living conditions. In the cities, food supply became difficult and the continuous population increase made the housing situation even worse. One of the principal aims of this period was removal of rural people from cities to countryside.

The Cultural Revolution, 1966-1976

The Cultural Revolution from 1966 to 1976 is described by the Chinese as "ten years of catastrophe". It was initiated by Mao Zedong to "revolutionize" China's "superstructure" in order to reform China's "culture" (i.e., the education system, the arts, etc.). In the realm of economic policies, the Cultural Revolution "represented an attempt to reemphasize the kind of revolutionary values that had motivated the Great Leap Forward (Barnett 1976, 6)". It should be pointed out though, that the Great Leap Forward was predominantly an economic movement, whereas the Cultural Revolution a political and cultural movement. Egalitarian values and revolutionary social change were reasserted instead of order, efficiency, or economic growth.

The years 1966, 1967, and 1968 were referred to as the "three bad years", when disruptions of the economy were

greater than the latter part of the Cultural Revolution. Per capita NMP growth rates remained low (Table 1). The widespread political turmoil and the breakdown of authority led to a significant drop in production. To cope with the ever-increasing urban population and to achieve the goals of socialist education, the state council organized a massive campaign to resettle urban youth (almost exclusively middle school graduates) to rural areas. From 1966 to 1977, 17 million young people left the cities for the countryside. (Farina 1980, 496). These teenagers were "removed from their social environment, alien to the peasant world, overwhelmed by hard work and psychologically depressed (Farina 1980, 496)". This mass migration, known as the "Shang Shan Xia Xiang" (up to the mountains and down to the country) movement, had serious social consequences and constituted a tragedy for a whole generation of people.

After the three bad years of the Cultural Revolution (1966-1968), order was gradually resumed and production began to increase. Economic policies after 1968 were similar to the policies of the 1963-1965 readjustment period. Agriculture remained the top priority. Foreign trade expanded. In fact, China imported foreign technology and even entire plants from non-socialist countries on a larger scale than ever before. Military procurement was greatly

cut back starting in 1972 after American President Richard Nixon's visit to China.

The late 1960s and early 1970s saw a wave of state-supported rural industrialization. Policy at that time encouraged the establishment of "five small" rural industries: iron and steel, cement, chemical fertilizer, hydroelectric power and farm implements. From a very low base, rural industrial output grew rapidly through the 1970s. Between 1970 and 1978, rural industrial employment grew 20 percent annually (Naughton 1996, 146), employing about 17 million people (Farina 1980, 499). Suzanne Paine reports that 29 million people were employed in rural industries, which represented 9.4 percent of total rural labor force (Paine 1981, 155). However, rural industrial output was surprisingly unimportant on the eve of reform. Of China's total industrial output in 1978, only 9 percent was produced in rural areas (Naughton 1996, 144). Thus, the sector's direct contribution to national industrial output was much less significant than its contribution to employment.

Third Front

From the early 1960s to the mid-1970s, there was an extraordinary episode occurring in China's regional economic development history. During the period, there were massive

and secret investments and construction in mostly remote, mountainous regions of western China, which was called the "Third Front". The highly vulnerable coastal cities were regarded as the First Front. The Second Front was a vaguely defined "buffer zone" between the First Front and the Third Front. The basic objective of the Third Front was to build a completely self-sufficient and secure industrial base to provide China with strategic industrial production in the event of foreign attack.

The Third Front program was China's response to a world environment that she perceived to be extremely threatening. With the increasing hostility between China and the Soviet Union and the American escalation of the Vietnam War, China found herself without a powerful ally and potentially subject to hostile action by either or both super powers. Under such circumstances, Mao Zedong, in August 1964, called for a drastic acceleration of the inland construction plan, based on his assessment that large-scale war was inevitable.

The area of the Third Front includes all of Sichuan, Yunnan, Guizhou, Gansu, Qinghai, and Ningxia, a part of Shaanxi (south of the Qinling mountains), and the western, mountainous portions of Henan, Hubei, and Hunan (Naughton 1988, 354). This area (Figure 2) consists of mountains above 500 meters in elevation, and basins such as the

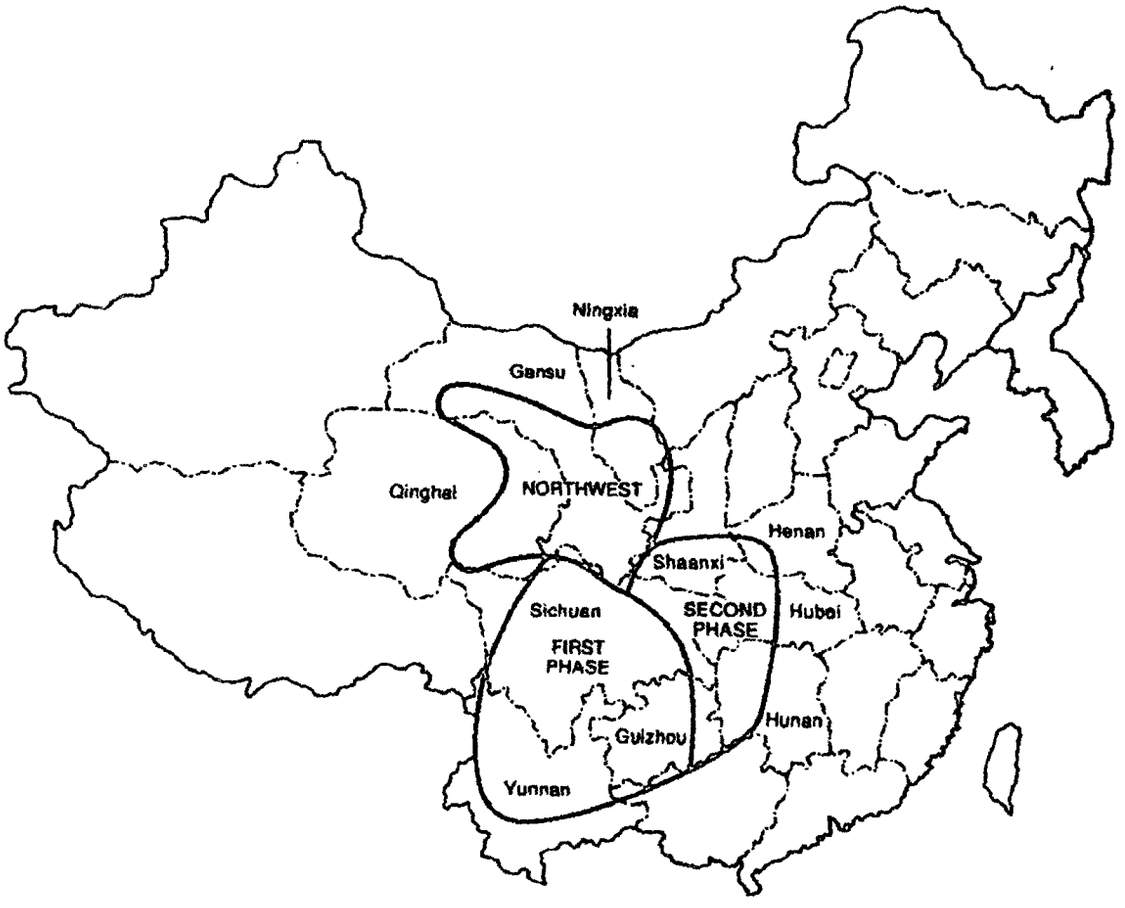

Figure 2. The Third Front area of China. FIRST PHASE and SECOND PHASE refer to the first and second phases of Third Front construction. Source: Naughton 1988, 354.

Sichuan Basin. Within this vast region, individual Third Front factories were located in extremely remote sites, scattered across thousands of square kilometers of the generally mountainous terrain. This pattern was summarized by the Chinese as "shan, san, dong", which meant "in mountains, in dispersion, in caves". It reflected the military orientation of the Third Front, and was designed to minimize damage from enemy air attack.

Moreover, the Third Front was to establish an industrial system with a strong capacity of scientific research. Therefore, not only factories but research institutes as well were moved to the Third Front area. In some cases, entire factories were moved from their coastal locations to the interior; but more often only a portion of the original plant's work force and machinery was transferred inland. In other cases, a large number of production facilities were built from scratch. The major sectors in the Third Front, where huge investment funds were absorbed, included mining, energy production, metallurgy (especially iron and steel), machine building, and military hardware. In the absence of navigable waterways and adequate highways, more than 5,000 kilometers

of railways were constructed using mass human wave construction techniques (Kirkby and Cannon 1989, 10).

During the seven years of Third Front construction, 29,000 state enterprises were built throughout the region, with a huge work force of sixteen million, which accounted for almost one-third of the total state payroll in the mid-1960s (Kirkby and Cannon 1989, 9). The program consists of about 1,800 to 2,000 large- and medium-sized enterprises, compared with a national total of approximately 5,000 in 1981 (Naughton 1988, 365; Cannon 1990, 39), and 200 major research institutes (Naughton 1990, 365).

The percentage of total national investment that went to the Third Front program is shown in Table 2. According to Li Zhengquan, within the Third Front area, the south-western (Sichuan, Yunnan, and Guizhou Provinces) and the north-western (Qinghai, Gansu, and Ningxia) regions together received the highest proportion of investment, 35.1 percent and 24 percent during the Third and Fourth Five-Year-Plans respectively (Li 1992,53).

A program of such magnitude had no precedent. Never before has such a large portion of any nation's industrial development effort been directed into defense-related

Table 2

Percentage of National Investment in Third Front

Year	Percentage of National Investment
1963-1965	38.2%
Third FYP[a], 1966-1970	52.7%
Fourth FYP[a], 1971-1975	41.1%

Source: Naughton 1988, 365.
[a] FYP refers to Five-Year-Plan.

industrialization. Among its major achievements are: 1) the creation of a railway system connecting previously isolated parts of inland China; 2) the exploitation of important ferrous and non-ferrous minerals; and 3) the establishment of some fairly efficient manufacturing enterprises in the interior (Naughton 1988, 375).

However, the Third Front program was costly industrialization. The Chinese leadership went far beyond the creation of sheer military capability, and envisaged a massive industrial system fully functional in both war and peace. Only about 20 percent of Third Front industrial investment went to military industries (Naughton 1988, 373).

The staggering cost of the Third Front was due to the following factors. First, the nature of the terrain in the Third Front area required large expenditures. Second, with

a maximum speed approach to preparatory work, for example, project design and site selection were poor. Nearly every known project ran into substantial additional costs (Naughton 1988, 376). Third, the Third Front also reduced the efficiency of investment in non-Third Front areas. According to Naughton's calculation, China's annual industrial output is 10-15 percent below what it would have been if the Third Front had never been undertaken, and if that investment had been used in other inland locations (Naughton 1988, 379). It was an unrealistic program that could not be completed. The Chinese economy simply did not have the resources to complete the huge number of projects. Construction of many projects was suspended or terminated following the visit of American President Richard Nixon to China in 1972, which marked the end of China's strategic isolation. In all, the Third Front had a deleterious effect on Chinese economy not only because it was extremely costly, but because the continuous flow of investment into the Third Front projects drained China's supplies of food and other consumer goods.

Even though the First Five-Year-Plan and the Third Front program similarly placed large investment in interior provinces, they differed in goals and locations (Fan 1995,

422; Naughton 1988, 375). The First Five-Year-Plan was meant to promote spatial economic equalities, with investment concentrated in a limited number of key cities in the interior. The Third Front was more for war planning than regional economic planning. Because of the magnitude and uniqueness of the Third Front program, some studies argue that the Chinese leadership during the pre-reform era cared more about military strategy than spatial inequalities (Kirkby and Cannon 1989, 4-6; Cannon and Jenkins 1990, 28-32). However, this writer agrees with Nicholas Lardy (Lardy 1980, 170-171) and Thomas Lyons (Lyons 1991, 471) that spatial equalities were a major concern to the Chinese leadership. Egalitarianism was consistently advocated and pursued throughout the pre-reform era, especially during the First Five-Year-Plan, the Great-Leap-Forward and the Cultural Revolution. Whether or not these policies succeeded in reducing regional economic disparities will be discussed in Chapter Five.

Between Mao Zedong's death in September 1976 and Deng Xiaoping's ascendancy to paramount leadership in December 1978, there was a transitional period. During these two years, Deng consolidated his power by purging Hua Guofeng, Mao's chosen successor, and the "Gang of Four", a group of

Deng's political enemies headed by Mao's wife, Jiang Qing. The time was ripe for Deng Xiaoping to initiate his economic reform policy.

CHAPTER FOUR

THE REFORM ERA AFTER 1978

Changes in the Political and Economic Systems

At the latter part of the 1970s China's paramount leader, Deng Xiaoping, gradually came into power. He virtually took Mao's place after Mao's death in 1976. He pushed forward a series of radical policies that are generally named the reform and open-door polices. These policies have greatly changed China's political and economic landscape.

In the political realm, there has been a fundamental reinterpretation of socialism in China since reform. In December 1978, the Central Committee of the Chinese Communist Party (CCP) announced a shift in Party focus to modernization and economic growth. This marked the beginning of the reform era and rise of pragmatism. In 1978 the CCP presented its new orthodoxy of socialism--the Theory of the Primary Stage of Socialism--at its Thirteenth

National Congress. This theory was expected to provide an explanation of the nature and tasks of "socialism with Chinese characteristics", a concept frequently cited by the media in the 1980s.

The Theory of the Primary Stage of Socialism has two main aspects. The first aspect is that China has already established a socialist society which must be preserved. China has not only a socialist economic system, which is based on public ownership of the means of production, but also a socialist political system that has a guiding philosophy of Marxism-Leninism. The second aspect of the theory is that China's socialism is in its beginning stage in the course of socialist evolution. China adopted socialism when it was a semifeudal and semicolonial country with a low level of economic development. Hence, it was thought that China would not be able to practice initially "full socialism" since "full socialism" could only occur in a mature socialist society. The concept of "socialism with Chinese Characteristics" was thus created as a variation of socialism--one that respects China's unique historical context (Fan 1995b, 424). Since poverty is a major constraint to the further development of socialism in China, the priority at the initial stage of socialism is to bring about industrialization and economic growth rather than

ideological struggle. Other social or political criteria are more or less subordinate to economic development. Moreover, the Primary Stage Theory maintains that a primary stage is unavoidable and may last for a long time. The Great Leap Forward and the economic development aspects of the Cultural Revolution were unrealistic mistakes based on "utopian" views of rapid development beyond China's capabilities at that time. Now it is believed that the primary stage of socialism will last until the middle of the twenty-first century (Mackerras et al. 1994, 11-12).

In the economic realm, the reform era saw China gradually growing out of the command system, or "plan" with an institutionalized Dual Track System. As part of the reform package, the government gave explicit definition to two separate spheres of economic activity--the planned sector and the market sector. The planned sector was required to make transactions at fixed state prices, according to compulsory state plans, but its scope was to be diminished in absolute terms. The market sector included the remainder of the economy, based on market prices, and its scope was allowed to grow. Non-state enterprises, especially rural industries, were an important part of the market sector and almost all their transactions were at market prices. On the other hand, state enterprises were

allowed to operate utilizing both elements of the Dual Track System. That is, they could operate according to principles and demands of the state plan and also be engaged in productive activity in the market sector at market prices. After 1985, the participation of state enterprises in the market sector has been a crucial component of the growth of the market sector (Naughton 1995, 220-221).

The 1990s saw an acceleration of progress toward a free market system. At the beginning of 1992, Deng Xiaoping, after a tour of South China, reaffirmed reform policies and attacked conservative opposition that had emerged since the Tiananmen Square incident. In October 1992, the fourteenth Party Congress proclaimed that China would adopt a socialist market economy. This was the first unambiguous, official signal, that the ultimate goal of reform was transition to a market economy (Naughton 1996, 289). Substantial achievements were made during 1992-93, when, for the first time, the government started to cut back on the state plan and began to move toward a system of full market pricing. Price controls on key producer goods such as coal, oil, and steel, as well as important consumer goods, particularly grain, began to be removed. By mid-1990s, the end of the Dual Track System was in sight because the command plan had been sharply cut back and the movement toward market economy

was inevitable. China now has a market economy with a mixed ownership base. Productive enterprises of the traditional command economy still exist, but a significant proportion of these state enterprises is run at a loss. The future of the old state sector is likely to be short and privatization of most remaining state enterprises is now under way.

Regional Economic Policy of the Reform Era

As part of the reform package, regional economic policy of the reform era has undergone fundamental changes. Deng Xiaoping completely repudiated Mao's egalitarianism and advocated policies that allowed some people and some regions to get rich first so that they would set examples for others that might eventually get rich, too. The Primary Stage Theory provides justification for the new regional economic policy that emphasizes efficiency over equality. Official regional economic policy now expects and tolerates uneven regional economic development so long as it improves efficiency and produces economic results.

The changes in regional policy reflected painful lessons learned from past failures (Zhang 1989, 71). The new Chinese leadership believed that the pro-interior investment policy carried out in the pre-reform era ignored efficiency and in general, failed to bring about improvement

in people's living standards in general. Even though there were ups and downs, the economy as a whole grew rapidly from 1949 to 1978, particularly in the industrial sector. But China's planning system failed to achieve any significant improvement in people's living standards during that period. One of the reasons why the new leaders turned to radical reform was because they wanted to deliver more of the benefits of economic growth to the Chinese people in order to solidify their newly-secured political position (Naughton 1996, 61).

The shift in regional economic policy also reflected the influence of Western regional economic development theories based on the experience of developed countries (Zhang 1989, 71-72; Peng 1991, 3-4). The Inverted-U Model (Williamson 1965), the Core-Periphery Model (Friedmann 1966, 60-101), and the notion of Circular and Cumulative Causation (Myrdal 1957), all predict an increase in spatial economic inequalities during the initial stages of development followed by diffusion and regional convergence in later stages. Since China is at an early stage in the development continuum, an increase in regional economic inequalities is inevitable in the short term (Zhang 1989, 71-72). The United States is often cited as a supporting example because its economic history of polarization and trickling-down

ratifies the above contention. Another example is Japan, which, as a small country, suffered from decades of disparities between the coastal areas and interior locations (Zhang 1989, 72).

Growth Pole Theory (Hirschman 1958, 183-201; Richardson 1976) has influenced the new urban policy. This theory maintains that economic growth initially concentrates in selected growth poles before its diffusion to the hinterland. Growth Pole Theory helps to legitimize China's renewed emphasis on development in medium- and large-sized cities and on heavy investments in selected coastal locations.

Three-Economic-Region Model

Regional economic policy of the reform era emphasizes comparative advantage, regional specialization and division of labor (Fan 1995, 425). The idea of comparative advantage culminated in China's Seventh Five-Year-Plan (1986-90), which divided the country into three large economic regions, the economically developed Eastern Region, the less developed Central Region and the underdeveloped Western Region (Figure 1). The Eastern Region is also called the coastal region and includes the twelve coastal provinces and municipalities from Liaoning in the north to Hainan in the

south. The Central Region refers to nine provinces and autonomous regions from Heilongjiang to Hunan, and the Western Region is the remaining nine provinces and autonomous regions in the interior.

The Three-Economic-Region Model is a blueprint for regional economic policy of the reform era. The three regions were assigned different roles according to their factor endowments. The Eastern Region would develop export-oriented industrialization and foreign trade. In particular, it would upgrade the technology of traditional industries and develop high technology industry and high value-added consumer products industry. The Central Region would focus on energy, raw materials, machinery, electrical products, and agriculture. The Western Region would specialize in crop agriculture, forestry, animal husbandry and transportation. Moreover, the Western Region would selectively develop its energy, mineral resources, and local processing industries (Yang 1990, 242).

The role assigned to the Eastern Region should be understood with regard to the open-door and foreign trade policies that have been implemented since 1978. The theoretical support for China's foreign trade policy is based on the Grand International Cycle Theory. This theory states that as developed countries and the newly

industrialized economies (e.g., Singapore, Korea, Hongkong, and Taiwan) move away from labor-intensive industries to more sophisticated sectors, China should take advantage of its large and cheap labor supply by specializing in labor-intensive export-oriented industries. This would bring in foreign exchange and capital for infrastructural and technological improvement (Fan 1995b, 425).

Export-led growth in the Eastern Region has been largely realized through the establishment of a number of open zones along the coast (Figure 1). In 1979, Shenzhen, Zhuhai, Shantou (all in Guangdong Province) and Xiamen (in Fujian Province) were designated as Special Economic Zones (SEZs). In 1984, fourteen Open Coastal Cities (OCCs) were announced. Within these OCCs, Economic and Technical Development Zones (ETDZs) were established for the development of high technology industry. In early 1985, the Yangtze, Pearl, and Min River Deltas were designated as Coastal Economic Development Zones (CEDZs). In 1988, Hainan Island became a province as well as the fifth SEZ. In all of these locations, foreign investors are given favorable tax treatment, for example, tax reduction and tax exemption. To promote these zones and cities, the state allocated large investment to improve their infrastructure. They became, in fact, state-selected growth poles.

Although SEZs, OCCs, ETDZs, CEDZs differ in details, all were designed to attract foreign capital, technology, and management skill, and to increase exports (Yang 1990, 243). In order to achieve this goal, the central government designed a series of spatially biased policies, namely, "preferential policies", which obviously favored the coastal region. The five major preferential policies (Fan 1995b, 426) are as follows:

Revenue Remittance Policy. Some coastal provinces such as Guangdong are allowed to retain higher percentages of their revenue and remit smaller shares to the state.

Financial Policy. Coastal provinces and open zones enjoy greater freedom than the rest of the country in terms of currency circulation, credit, issuance of construction bonds, and establishment of private financial institutions.

Foreign Exchange Retention Policy. Open zones such as SEZs enjoy higher foreign exchange retention rates.

Price Policy. Primary and agricultural goods are priced substantially lower market price than finished and industrial products. This price differential is called the "scissors gap". The scissors gap favors coastal provinces at the expense of inland provinces because coastal provinces sell high-priced industrial goods to inland provinces and obtain low-priced primary products from them.

Investment Policy. The coastal region receives more investment from the state in the form of loans and subsidies. Table 3 shows coastal and interior shares of total investment in fixed assets over time. Total investment in fixed assets includes both investments by governments of various levels (central, provincial, municipal, etc.) and investments by collectives and private businesses. Table 3 also shows that the coastal region's share of total investment increased from about 51% in 1981 to about 56% in 1987, while the interior's share decreased from about 49% in 1981 to about 40% in 1987.

Table 3

Percentage of Total Investment in Fixed Assets by Region

Year	Coast	Interior
1981	50.94	49.16
1982	50.82	49.18
1983	52.85	47.15
1984	52.85	47.15
1985	52.73	47.27
1987	56.12	39.77

Source: Yang 1990, 247 and Zhang 1989, 72.

Another source of investment has come from foreign countries through joint ventures and wholly foreign-owned enterprises. Most of the foreign investment occurred in the

coastal region, especially in Guangdong and Fujian Provinces and the municipalities of Shanghai, Beijing, Tianjin. The principal reason for these choices are their geographic locations, overseas connections and superior business environments over the rest of the country. Table 4 depicts per capita foreign investment as a proportion of the national average at the municipal, provincial, and autonomous region levels. The Eastern Region was obviously the leader in attracting foreign investment with a mean value more than ten times those of the Central and Western regions.

Ladder-Step Theory

While the Three-Economic-Region Model relates to regional specialization, the Ladder-Step Theory (Yang 1990, 244-246; Yang et al. 1988, 43-46) specifies the regional preference of economic development. This theory maintains that the three macro-regions in China are like steps on a ladder and the Eastern Region is the higher step. Because the three regions differ considerably in terms of infrastructure, capital, technology, management skill and economic efficiency, regional policy should focus on developing the more advanced Eastern Region by providing it with greater amount of capital, energy, and foreign currency

Table 4

Foreign Investment Per Capita, 1986-1990
(National Average=100)

	1986	1988	1990
Eastern Region (Mean)	219	224	223
Beijing[a]	454	786	618
Tianjin[a]	408	372	185
Hebei	9	6	26
Liaoning	46	102	303
Shanghai[a]	613	467	409
Jiangsu	19	32	61
Zhejiang	19	41	49
Fujian	163	133	232
Shandong	25	18	45
Guangdong	620	492	505
Guangxi[b]	36	22	24
Central Region (Mean)	20	11	17
Shanxi	4	4	4
Inner Mongolia[b]	12	7	8
Jilin	73	8	21
Heilongjiang	27	27	22
Anhui	27	17	12
Jiangxi	9	12	16
Henan	4	11	7
Hubei	9	12	29
Hunan	14	3	38
Western Region (Mean)	16	16	12
Sichuan	8	24	10
Guizhou	10	6	6
Yunnan	4	3	5
Shaanxi	55	60	37
Gansu	2	11	1
Ningxia[b]	0	9	1
Xinjiang[b]	30	15	27

Source: Adapted from Fan 1995b, 433.
[a] Municipalities
[b] Autonomous regions.

than the Central and Western Regions. Only after the Eastern Region has become sufficiently developed, would attention be given to the Central Region, and finally the lowest step on the ladder would be the Western Region.

The logic for developing the coastal region first is that its existing industrial capacity has made it a processing center for inland raw materials and an export base. In addition, its higher level of technology and managerial sophistication will enable it to absorb foreign technology. Moreover, the Eastern Region is better suited to develop indigenous capabilities for technical and economic innovations, which can then be spread throughout the economy.

The Ladder-Step Theory is a Chinese version of the Inverted-U Model and Growth Pole Theory. It focuses on the coastal region, particularly coastal cities, as engines of growth, or growth poles, and it contends that future diffusion of growth will happen in the interior. However, Chinese proponents of the Ladder-Step Theory have rarely elaborated on the mechanisms for bringing about diffusion. They obviously consider this an issue to be addressed in the future. Deng Xiaoping's statement of dealing with the regional gap problem by the end of the twentieth century seemed to have provided a timeline for some researchers.

CHAPTER FIVE

REGIONAL INEQUALITIES OF ECONOMIC DEVELOPMENT

Regional inequalities of economic development are influenced by many factors, such as, geography, climate and resource endowment of a region. What is unique regarding regional economic inequalities in China is that the central government has played a more important role in shaping the country spatially than governments of other countries. With its central economic control and significant investment, the Chinese government has been able to direct regional economic development and substantially affect the general economic well-being of people.

A study of regional economic inequalities in China involves the problem of regionalization. China is a vast country with an area of 9.6 million square kilometers. As such, there are enormous geographical, social and economic variations across the nation. Consequently, it is not easy to classify China into a few large regions. This study has

thus far described China as dichotomous with an economically developed coastal region and a backward interior region, or as tripartite with three large economic regions. Clearly though, such a simplified classification conceals substantial variations within each region. For example, some counties in the relatively wealthy coastal region, less than 250 kilometers from Shanghai, are among the poorest in the country. On the other hand, some counties in the poor interior region, such as Xinjiang Autonomous Region, have some of the highest per capita agricultural income (Cannon 1990, 33). The above macro-regions share certain internal characteristics, but one should not assume too much similarity within them. Even the thirty administrative provinces do not coincide perfectly with natural economic regions (Riskin 1987, 225). For the convenience of study, "provinces" as used here refer to twenty-two provinces, five autonomous regions, and the three municipalities of Shanghai, Beijing, and Tianjin. Since relevant data exist at the provincial level and national expenditures are allocated to each province, the Chinese provinces are in fact planning regions. Therefore, this research mainly presents regional economic inequalities between provinces. In addition, some discussion about spatial economic inequalities between the three economic regions will be presented later in this chapter.

The term "regional economic inequalities" is ambiguous as to what is to be equalized or balanced. In this study, focus is on regional income, or provincial income, since provinces are the regional units of interest. The best indicator of provincial income is **gross national product (GNP)** calculated at the provincial level. Unfortunately, early provincial statistical reports in China rarely recorded provincial GNP. However, data that have been published by provincial authorities on **gross value of industrial and agricultural output (GVIAO)** can be used as a surrogate of provincial income. Because GVIAO is the largest and the most important component of GNP, it is reasonable to use GVIAO data for a preliminary investigation of the degree of interprovincial income inequality. In late 1987, the State Statistical Bureau of China released a compendium of provincial income accounts. The most important indicator in the accounts is **net material product (NMP)**. NMP is the nominal gross value of output minus nominal material consumption. It is national income that originates in the five "material production sectors": agriculture, industry, construction, transportation, and commerce. NMP differs from GNP in excluding depreciation and many services that do not contribute directly to material production. The value-added measure, NMP, is much more desirable than GVIAO as a surrogate of provincial

income because gross value of output allows double-counting to an extent that it varies across sectors and regions and over time (Lyons 1991, 473). Provincial output value and NMP are used as surrogates of provincial income for examining regional income inequality in the pre-reform era. For the reform era, provincial output value, NMP, and GNP are used.

There are absolute and relative measures of provincial income inequality. An example of an absolute measure is the range between the highest and lowest provincial income per capita. Two most commonly used relative measures are 1) the ratio of the highest provincial income per capita to the lowest (the high-low ratio), and 2) coefficient of variation of provincial income per capita. The coefficient of variation is the ratio of the standard deviation of provincial per capita income data to its average (coefficient of variation = standard deviation/average). The larger the coefficient of variation, the greater provincial income inequality.

Regional Income Inequality in the Pre-Reform Era

Nicholas Lardy's work (Lardy 1980) was the first to provide a detailed and systematic account of China's regional income inequality (Tsui 1991, 1). He converts the officially reported gross value data for industry and

agriculture output to net values, which actually become a form of national income originating in industry and agriculture (Table 5). The second column of Table 5 shows the sum of per capita value added in industry and agriculture by province in 1957, expressed as a proportion of the national average. Shanghai, the largest industrial center, was almost six times as developed as the national average and more than eight times as developed as Henan, one of the poorest provinces in 1957. The municipalities of Beijing and Tianjin, and the northeastern provinces (Heilongjiang, Jilin and Liaoning) were also among the most developed. Shandong, Fujian, Guangxi, Henan, Sichuan, and Guizhou all had per capita value added in industry and agriculture of less than 80 percent of the national average. They were the least developed regions of the country. Tibet and Ningxia would likely be included among these provinces, but data were lacking. When industry and agriculture are examined separately, the relatively even distribution of agricultural output is very noticeable. Except for the three municipalities of Shanghai, Tianjin, and Beijing, whose suburban areas had only limited cultivated land before 1958, there was little regional disparity in agriculture. On the other hand, there was striking disparity in the industrial sector. The concentration of industrial output in the three

Table 5

Per Capita Output in 1957 (National Average=100)

Provinces[a]	Industry and Agriculture	Industry	Agriculture
Coastal Region			
Liaoning	200	401	81
Beijing	191	473	21
Tianjin	391	1,101	21
Hebei	93	56	115
Shandong	74	62	82
Jiangsu	86	83	88
Shanghai	587	1,550	12
Zhejiang	93	78	103
Fujian	79	69	85
Guangdong	95	82	102
Guangxi	74	34	97
Central Region			
Heilongjiang	185	219	166
Jilin	132	157	117
Inner Mongolia	115	68	143
Shanxi	97	95	98
Henan	70	29	95
Anhui	80	37	105
Hubei	104	75	122
Jiangxi	90	52	111
Hunan	80	41	103
Western Region			
Xinjiang	132	65	171
Gansu	89	36	119
Ningxia	[b]	10	[b]
Shaanxi	106	58	135
Qinghai	137	40	194
Sichuan	77	56	90
Guizhou	75	30	102
Yunnan	82	48	103
Tibet	[b]	7	[b]
High-Low Ratios[c]	8.4:1	51.7:1	13.8:1
Population-Weighted Coefficients of Variation	0.29	0.92	0.19

Source: Lardy 1980, 160-161. Data for Ningxia and Tibet are from Riskin 1987, 226.

[a] "Provinces" include provinces, autonomous regions, and municipalities.

[b] No data.

[c] Calculated by this writer, Ningxia and Tibet excluded.

municipalities and the three northeastern provinces was very marked. This pattern is reflected in the coefficient of variation for industrial sector (0.92), which was more than 4 times as high as that for agriculture (0.19).

The above indicates that substantial income inequality between provinces did exist in the 1950s, and that industrial growth was the major source of regional income disparity. China's annual industrial growth between 1952 and 1974 averaged 12 percent while annual agricultural growth was only 3.5 percent (Lardy 1980, 163). Since industry was the major cause of interprovincial income inequality and was also the most rapidly growing sector, it is reasonable to conclude that trends in regional income disparity could be largely determined by differences in provincial industrial growth (Lardy 1980, 163).

It should be noted that income disparity in the pre-reform China was not reflected in substantial interregional variations in real personal income, but in provincial transfers to the central government. Because wage rates were determined and fixed by the central government, there was little variation in urban income throughout the country. Through its redistribution mechanism, the central government was able to transfer income from wealthy provinces to poor ones. For example, Shanghai, Tianjin and the northeastern provinces of Heilongjiang and Liaoning annually remitted to

the central government from 50 percent to 90 percent of their revenues. The less developed provinces, such as, Tibet and Xinjiang, generally retained all their revenues and received subsidies from the central government from 50 percent to 80 percent of their own local expenditures (Lardy 1980, 173).

Since regional income disparity was largely determined by industrial growth, and data on provincial industrial growth were more plentiful and complete than data on agriculture or services, various studies have focused on the industrial sector. Table 6 shows per capita industrial output by province in 1952, 1957, and 1974 expressed as a proportion of the national average. The provinces are arranged in descending order of per capital industrial output in 1952. There was a modest trend toward equalization of per capita provincial industrial output from 1952 to 1974. The performance of the poorest provinces in 1952, generally improved in 1957 and 1974, especially Henan, Gansu, Qinghai and Shaanxi, which all experienced high growth rates. On the other hand, the wealthy provinces of 1952 tended to converge toward the national average by 1974, especially the three northeastern provinces of Heilongjiang, Jilin, and Liaoning, as well as the municipalities of Shanghai and Tianjin, which were growing at a relatively slow pace. Meanwhile, Beijing enjoyed high growth.

Table 6

Per Capita Industrial Output, 1952, 1957, 1974
(National Average=100)

Provinces[a]	1952	1957	1974
Shanghai	1,864	1,550	1,303
Tianjin	1,244	1,101	1,057
Beijing	483	473	632
Liaoning	377	401	297
Heilongjiang	277	219	144
Jilin	166	157	138
Jiangsu	108	83	99
Zhejiang	81	78	59
Guangdong	80	82	88
Shanxi	76	95	73
Shandong	73	62	70
Xinjiang	62	65	48
Hebei	60	56	101
Jiangxi	58	52	51
Hubei	58	75	66
Fujian	53	69	57
Inner Mongolia	45	68	98
Sichuan	43	56	38
Shaanxi	42	58	63
Hunan	40	41	45
Qinghai	38	40	59
Gansu	35	35	70
Anhui	35	37	36
Henan	33	29	41
Guangxi	33	34	40
Yunnan	32	48	35
Guizhou	30	30	33
Population-Weighted Coefficients of Variation	1.01	0.92	0.86

Source: Lardy 1980, 164-165.

[a] "Provinces" include provinces, autonomous regions, and municipalities.

This trend, the poor provinces growing faster than the rich ones in the industrial sector, was further confirmed by the population-weighted coefficients of variation, which declined from 1.01 in 1952 to 0.92 in 1957, and to 0.86 in 1974.

Carl Riskin's study (Riskin 1987) confirms Lardy's finding that there was a modest trend toward equalization of per capita industrial output in the pre-reform era. Table 7 shows that the relative measures of inequality (the high-low ratio and the coefficients of variation) were either declining from 1957 to 1979, or at least remaining constant. However, according to Riskin, the absolute difference measured in yuan (Chinese currency), between the highest per capita provincial industrial output and the lowest, was widening considerably between 1957 and 1979. The gap grew from 1,644 yuan in 1957 to over 5,000 yuan in 1979 (Riskin 1987, 231). This widening of the gap reflects the much lower base from which the poorest provinces began. It means that despite gradually converging industrial growth rates, the absolute gap between rich and poor provinces widened considerably from the 1950s to the late 1970s.

It should be pointed out that Riskin's calculations (Table 7) are different from Lardy's (Table 5 and 6) due to the following. First, Riskin uses **gross value of industrial output (GVIO)**, while Lardy converts gross values to value-

Table 7

Per Capita Industrial Output,
1957, 1965, 1974, 1979 (National Average=100)

Provinces[a]	1957	1965	1974	1979
Coastal Region				
Liaoning	385	334	300	257
Beijing	481	385	617	513
Tianjin	1,112	572	663	498
Hebei	55	86	122	84
Shandong	62	58	77	87
Jiangsu	84	93	113	138
Shanghai	1,517	1,165	1,404	1,106
Zhejiang	76	72	58	85
Fujian	69	56	48	39
Guangdong	84	94	85	79
Guangxi	33	32	37	57
Central Region				
Heilongjiang	222	195	127	141
Jilin	161	148	109	120
Inner Mongolia	60	251	187	63
Shanxi	92	[b]	72	91
Henan	30	41	43	50
Anhui	36	40	36	51
Hubei	74	64	58	86
Jiangxi	54	[b]	49	51
Hunan	40	41	44	63
Western Region				
Xinjiang	82	86	46	54
Gansu	51	87	100	92
Ningxia	10	24	35	80
Shaanxi	56	73	64	80
Qinghai	45	73	99	78
Sichuan	55	53	41	54
Guizhou	33	48	34	36
Yunnan	48	38	32	40
Tibet	7	13	14	11
High-Low Ratios[c]	152:1	49:1	44:1	31:1
Coefficients of Variation	1.87	1.50	1.72	1.49

Source: Riskin 1987, 226.

[a] "Provinces" refer to provinces, autonomous regions, and municipalities.

[b] No data.

[c] Tibet is excluded because of uncertainty about its statistics.

added. Second, when calculating the coefficients of variation, Lardy includes the three municipalities in their adjacent provinces (Shanghai in Jiangsu, Beijing and Tianjin in Hebei), while Riskin treats them similar to individual provinces. This explains why Riskin's indices are higher than Lardy's. Third, Lardy uses population-weighted coefficients of variation (standard deviation weighted by provincial populations/average weighted by provincial populations), while Riskin uses unweighted coefficients of variation (standard deviation/average). If regional disparity is the concern, use of unweighted coefficient may be more appropriate (Lyon 1991, 475; Zhang 1992, 19-20). However, existing empirical studies employing either measure give very similar results.

The availability of NMP data in 1987 has enabled many studies utilizing this better surrogate of GNP. Thomas Lyons (Lyons 1991) uses provincial NMP as an indicator of regional income and examines interprovincial income disparity in China from 1952 to 1987 (Table 8).

Column 1 of Table 8 is arranged in descending order by the provinces' initial NMP per capita in 1953. The provinces are also classified into three groups on the basis of initial levels of NMP per capita in 1953, roughly representing the richer provinces (Group 1), the middle-income provinces (Group 2), and the poor provinces (Group

Table 8

Growth Rates of Real Net Material Product (NMP) and Real Industrial Net Material Product Per Capita

Provinces[a]	NMP Growth Rate (% per annum, 1952-1987)	Provinces	Industrial NMP Growth Rate (% per annum, 1952-1985)
Group 1		Group 1	
Heilongjiang	2.6	Liaoning	5.4
Liaoning	4.2	Heilongjiang	4.7
Jiangsu	6.1	Jiangsu	6.5
Inner Mongolia	2.1	Hebei	6.3
Xinjiang	2.1	Jilin	5.4
Jilin	3.3		
Hebei	4.9	Group 2	
		Guangdong	7.0
Group 2		Fujian	7.6
Shanxi	3.5	Xinjiang	4.9
Guangdong	4.1	Inner Mongolia	4.8
Jiangxi	2.6	Shangdong	8.2
Fujian	3.4	Shanxi	6.3
Hubei	3.6	Hubei	8.1
Gansu	3.5	Shaanxi	8.2
Shaanxi	4.0		
Shandong	4.8	Group 3	
		Yunnan	5.8
Group 3		Sichuan	7.0
Henan	4.3	Henan	10.4
Hunan	3.9	Hunan	8.1
Yunnan	3.2	Guizhou	6.5
Sichuan	3.7	Gansu	10.1
Guizhou	2.4		
China	4.1	China	7.1

Source: Lyons 1991, 484.

[a] "Provinces" refer to provinces and autonomous regions. The three municipalities are included in their adjacent provinces, with Shanghai in Jiangsu, Beijing and Tianjin in Hebei.

3). The grouping is representative of the entire 1952-1957 period. Column 2 gives the annual average growth rates of provincial NMP for the 1952-1987 period. An examination of Column 1 and 2 reveals no significant negative correlation between the initial level of development as indicated by the ordering in Column 1 and the subsequent rates of development as indicated by the growth rates in Column 2 (Lyons 1991, 485). Some of the highest growth rates occurred in Group 1--the rich provinces in 1953 (6.1 percent for Jiangsu with Shanghai included, and 4.9 percent for Hebei with Beijing and Tianjin included). Among the five poorest provinces in Group 3, only one (Henan) grew at a rate higher than the national average. The data indicate that over the long term, real NMP per capita generally did not grow more rapidly in the poor provinces than in the richer ones. This fact implies that the absolute income gap between the rich and the poor provinces was widening rather than narrowing.

Though NMP per capita is a better indicator of provincial income, much of the research concerning regional development in China has focused more narrowly on the industrial sector, as industrial growth is regarded as the major source of regional income inequality in China. In Column 3 of Table 8, the provinces are again listed in descending order by initial industrial NMP per capita in 1953, classified into three groups. The grouping is

representative of the entire 1952-1957 period, and the group boundaries are chosen to provide distinct intervals in terms of industrial NMP per capita between groups. Column 4 of Table 8 gives the annual average growth rates of provincial industrial NMP for the 1952-1985 period. According to Lyons, there is a negative correlation between initial level of industrial NMP per capita as indicated by the ordering in Column 3 and subsequent rate of industrialization as indicated by the growth rates in Column 4 (Lyons 1991, 485). The five provinces in Group 1 with the highest industrial NMP per capita in the 1953 all grew below the national average while four out of six poorest provinces in Group 3 grew at or above the national average. According to Lyons (Lyons 1991, 486), the six least-industrialized provinces, as a group, grew at a higher rate (7.1 percent per annum) than the five most industrialized provinces (5.8 percent per annum). The nine middle-income provinces (in terms of initial level of development in 1953) grew at an intermediate rate of 6.6 percent. This confirms Lardy's finding based on per capita industrial value-added data that less industrialized provinces generally grew at higher rates than industrialized provinces in the pre-reform era (Lardy 1980, 165).

However, this growth pattern is not significant when the difference in initial levels of industrialization are

taken into consideration. The six poorest provinces were almost devoid of industry throughout the 1950s. For the entire group, industrial NMP per capita ranged from less than 10 yuan in 1952 to only about 18 yuan by 1957. During the 1950s, industrial NMP per capita in Liaoning was about 12 times that in Guizhou or Gansu (Lyons 1991, 486). For industrial growth from a near-zero base, an examination of absolute increments will be more helpful than the growth rates alone. Lyons' estimates on absolute increments in provincial industrial NMP per capita from 1952 to 1985 show that the less industrialized provinces were not catching up with the most industrialized ones (Lyons 1991, 486-487). In other words, the absolute gaps did not begin to narrow. This confirms Riskin's finding, based on absolute differences in gross values of per capita industrial output, that the absolute income gap was widening during the pre-reform era (Riskin 1987, 231).

To summarize, Lardy (Lardy 1980), Riskin (Riskin 1987), and Lyons (Lyons 1991) all agree that the absolute gap between rich and poor provinces did not narrow in the pre-reform era, though poor provinces were growing faster than rich ones in the industrial sector. Lyons' study (Lyons 1991) using NMP data from 1952 to 1987, however, is more convincing than Lardy's (Lardy 1980) or Risin's (Riskin 1987). Lyons is able to trace the long-term trend of

national income by province, while Lardy and Riskin use arbitrary beginning and ending years due to incompleteness of earlier data. (Lardy uses data for years 1952, 1957, and 1974; Riskin uses data for years 1957, 1965, 1974, and 1979.) Therefore, Lardy's and Riskin's conclusions, based on declining coefficients of variation for the selected years that the relative spatial inequality in regional income was decreasing, cannot be accepted without doubt. Lyon's major finding, that relative income disparity indicated by NMP per capita was not narrowing over the long term, is reached by examining the whole series of data from 1952 to 1987 instead of selecting arbitrary years. Kai Yuen Tsui's study (Tsui 1991), using the same data as Lyon's, confirms the latter's finding that neither absolute nor relative income disparity narrowed in the pre-reform years despite biased regional policy.

Table 9 presents the values of the coefficients of variation derived from real per capita NMP and National Income utilized (NIU). NIU is the sum of consumption and accumulation, including social consumption, private consumption and saving. The difference between NIU and NMP is theoretically equal to the inflow of resources, or, the outflow of resources if it is negative. This difference is largely a result of government transfers through the redistribution mechanism (Tusi 1991, 4). The two indices in

Table 9

Coefficients of Variation of Real Provincial Net Material Product (NMP) and National Income Utilized (NIU) Per Capita, 1952-1985

Year	CV[a]-NMP	CV[a]-NIU
1952	0.395	0.363
1953	0.443	0.410
1954	0.425	0.367
1955	0.406	0.309
1956	0.433	0.316
1957	0.434	0.348
1958	0.533	0.388
1959	0.625	0.456
1960	0.687	0.484
1961	0.535	0.465
1962	0.458	0.317
1963	0.477	0.387
1964	0.471	0.386
1965	0.463	0.338
1966	0.480	0.300
1967	0.436	0.326
1968	0.523	0.388
1969	0.571	0.341
1970	0.548	0.307
1971	0.549	0.342
1972	0.553	0.353
1973	0.585	0.380
1974	0.646	0.422
1975	0.614	0.413
1976	0.652	0.451
1977	0.603	0.379
1978	0.615	0.396
1979	0.605	0.413
1980	0.600	0.404
1981	0.587	0.420
1982	0.561	0.409
1983	0.554	0.394
1984	0.553	0.431
1985	0.574	0.465

Source: Tsui 1991, 8.

[a] Coefficient of variation.

Table 9 measure two different, but related facets of regional economic inequalities. The provincial per capita NMP is the per capita net value of output produced within a province. It is an indicator of regional income. The provincial per capital NIU measures the average amount of resources actually at the disposal of the residents of a province, plus or minus government transfers. It is an indicator of the level of consumption.

According to Tsui (Tsui 1991,10), the data for the years around the Great Leap Forward (1958-1960) are not very reliable due to the breakdown of the national statistical system at that time. Disregarding the year around the Great Leap Forward, the indices do not seem to display any significant trend in the period before the mid-1960s (Figure 3). Compared with the years prior to the Great Leap Forward, the levels of the NMP-based coefficient of variation are higher in the 1970s and the first half of the 1980s. In the long run, the interprovincial income gap has become more pronounced.

The values of coefficients of variation based on per capita real NIU are consistently lower than those based on per capita real NMP (Figure 3). It suggests that government transfers played a critical role in reducing regional income disparity. The indices do not exhibit any long-run trend in the 1950s and the 1960s. But between 1970 and 1976, there

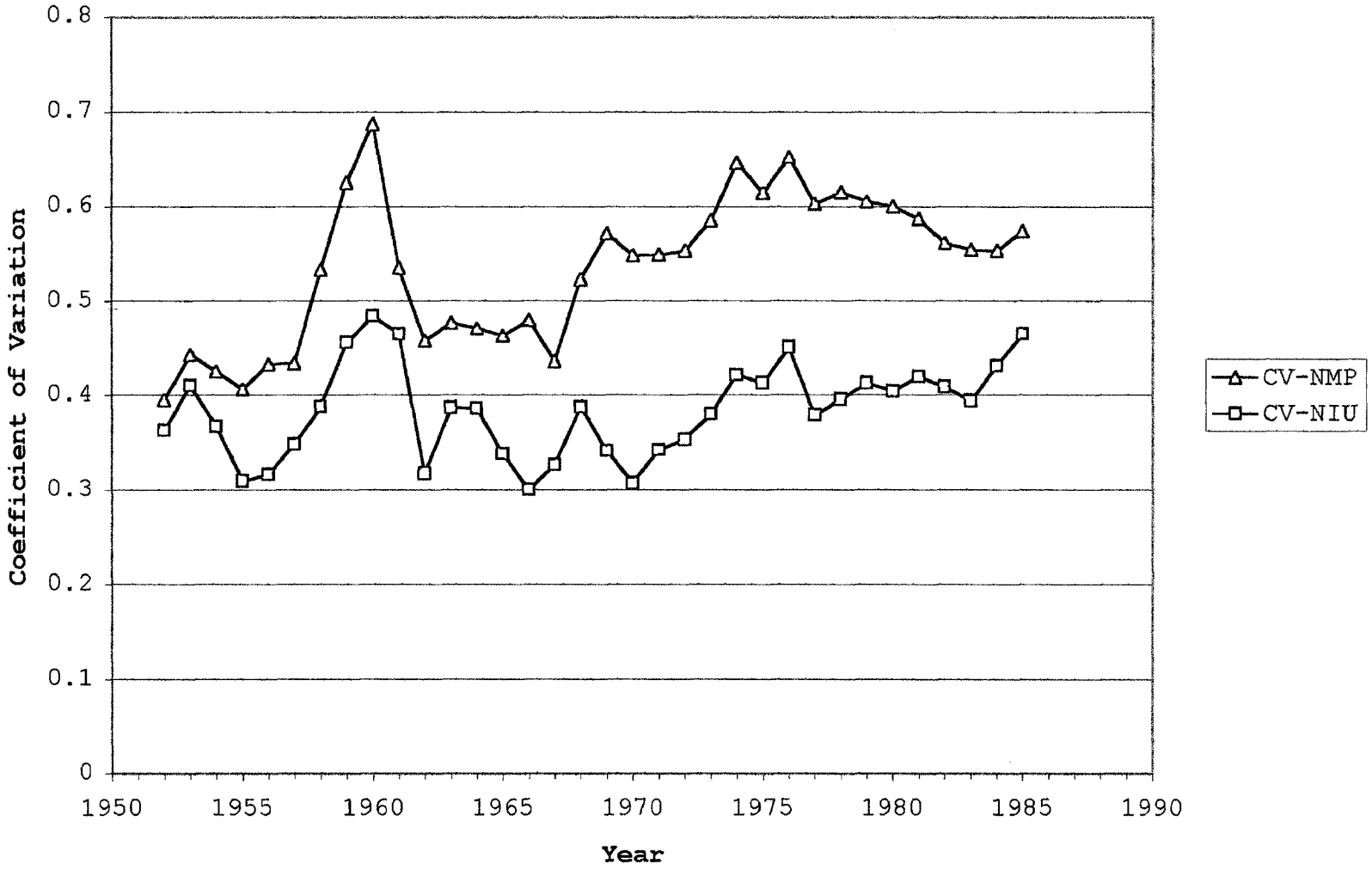

Figure 3. Coefficients of variation of real provincial Net Material Product (NMP) and Net Income Utilized (NIU) per capita, 1952-1985. CV in the legend refers to coefficient of variation. Source: Tsui 1991, 8.

is a sustained increase in the NIU-based indices. The coefficient of variation increased from 0.307 in 1970 to 0.451 in 1976. Though there was a dip in the value of coefficient of variation in 1977, the trend was basically upward up to 1985. This upward trend, though very mild, suggests that despite continuous efforts on the part of the central government, interregional transfers did not bring about any reduction in regional income inequality over the long run (Tsui 1991, 12).

Neither the NIU-based nor the NMP-based coefficients of variation display any discernible trend in the 1950s and 1960s. Though the coefficients of variation peaked during the Great Leap Forward (1958-1960), the reliability of the data for this period is hard to assess. The values of the coefficient of variation for the 1970s and 1980s are not lower than those in the normal years of the 1950s and 1960s.

To summarize, the absolute inequality of provincial income as indicated by per capita industrial output (Riskin 1987) and NMP (Lyons 1991) widened considerably throughout the pre-reform era. In the short run, relative inequality seemed to have decreased (Lardy 1980; Riskin 1987), but not significantly. Over the long term, relative income

inequality did not show any sign of a decrease (Lyons 1991; Tusi 1991).

Regional Income Inequality in the Reform Era

The pro-coast regional policy implemented in the reform era, emphasizing efficiency over equality, was expected to enlarge the income gap between regions. Whether regional income inequality has increased depends on the scale of analysis. For this study, empirical evidence pertaining to regional income inequality between the provinces is examined.

Contrary to the expectation, provincial income inequality showed a declining trend in the early reform era. According to Cindy Fan, whose study is based on per capita output data, this trend persisted until 1990 (Fan 1995b, 428). Yang Weimin also reports that regional income inequality as indicated by provincial per capita GNP decreased from 1978 to 1989 (Yang 1992, 72). Thomas Lyons agrees that the NMP data for 1978-1987 does not suggest that the reforms caused an increase in provincial income inequality (Lyons 1991, 476-477). Table 10 indicates that regional income inequality measured by the coefficient of variation of provincial industrial output per capita was decreasing throughout the 1980s until early 1990s.

Table 10

Coefficients of Variation of
Provincial Industrial Output Per Capita

Year	Coefficient of Variation
1979	1.49
1984	1.32
1989	1.03
1992	0.94
1993	1.01

Source: Li 1990,30.

Despite the pro-coast regional policy implemented in the 1980s, it seems that total and industrial inequalities declined. This paradoxical finding can be explained by the variable growth of individual provinces (Table 11).

In 1980 Jiangsu was near the national average, and Zhejiang and Guangdong were below the national average (Table 11). However, all three exceeded the national average by 1990. According to Li Si-Min (Li 1996,36). Guangdong's rank of gross value of industrial output per capita was sixteen among the twenty-nine provinces in 1979. It rose to the seventh in 1989. In fact, Guangdong attained the highest provincial GDP by 1990 (Li 1996, 36). Moreover, Fujian and Shandong, both below the national average in 1980, were rapidly converging to the average.

Table 11

Total Output Per Capita, 1980-1990 (National Average=100)

	1980	1982	1984	1986	1988	1990
Eastern Region (Mean)	162	161	159	156	158	157
Beijing	300	284	291	256	258	256
Tianjin	275	276	264	250	254	258
Hebei	65	63	64	66	70	72
Liaoning	155	149	146	152	152	144
Shanghai	559	528	489	448	411	400
Jiangsu	104	108	119	136	148	143
Zhejiang	83	93	102	118	126	123
Fujian	56	62	64	68	74	77
Shandong	58	69	76	80	89	97
Guangdong	84	89	93	99	109	118
Guangxi	46	49	42	42	42	43
Central Region (Mean)	66	68	69	71	69	69
Shanxi	68	73	78	74	70	73
Inner Mongolia	53	58	58	59	61	63
Jilin	89	87	95	93	96	90
Heilongjiang	109	108	103	106	94	99
Anhui	46	50	54	60	57	54
Jiangxi	56	53	51	54	54	54
Henan	46	46	47	53	54	55
Hubei	68	73	79	83	81	77
Hunan	60	62	59	61	56	55
Western Region (Mean)	53	53	53	55	55	56
Sichuan	46	48	49	52	53	53
Guizhou	30	33	36	35	35	34
Yunnan	39	42	43	41	41	45
Shaanxi	55	55	55	57	57	58
Gansu	58	53	53	57	56	57
Qinghai	75	69	67	68	67	63
Ningxia	61	58	60	64	62	63
Xinjiang	59	63	65	66	72	77
National Average (yuan, in 1990 constant price)	2,277	2,467	2,984	3,446	3,902	3,978

Source: Fan 1995b, 430.

On the other hand, the three municipalities of Shanghai, Beijing, and Tianjin, and Liaoning Province all experienced slow growth. Rapid growth of the above five provinces within the Eastern Region was offset by slow growth of the three municipalities and Liaoning in the same region. This resulted in decreased income inequality within the Eastern Region, which in turn caused provincial income disparity to decrease because of this region's larger share of output relative to the other two regions. Slow growth of the above four provinces was more apparent when considering industrial output (Table 12).

Table 12

Gross Value of Industrial Output (GVIO) Per Capita (National Average=100)

Provinces	1979	1993
Shanghai	1108	480
Beijing	513	265
Tianjin	498	295
Liaoning	257	169

Source: Li 1996, 37.

Table 13 shows income inequality indicated by GNP per capita within the three economic regions. It indicates that the most important factor contributing to the declining income disparity between provinces in the early

reform era was the reduced spatial inequalities within the Eastern Region and the Central Region. The coefficients of variation went down by more than 4 percent annually for the Eastern Region, and almost 7 percent for the Central Region.

Table 13

Coefficients of Variation of Gross National Product (GNP) Per Capita by the Three Economic Regions

Year	China	Eastern Region	Central Region	Western Region
1978	0.97	0.88	0.43	0.28
1979	0.91	0.86	0.39	0.24
1980	0.90	0.85	0.40	0.22
1981	0.87	0.81	0.38	0.24
1982	0.82	0.77	0.36	0.23
1983	0.79	0.74	0.35	0.24
1984	0.76	0.69	0.31	0.22
1985	0.75	0.68	0.25	0.23
1986	0.73	0.65	0.25	0.24
1987	0.70	0.61	0.23	0.23
1988	0.68	0.57	0.20	0.24
1989	0.66	0.55	0.20	0.24
Annual Change of CV[a]	-3.47%	-4.23%	-6.83%	-1.43%

Source: Yang 1992, 72.
[a] Coefficient of variation.

Two factors led to the decrease in spatial inequality of GNP per capita within the Eastern Region. One was the

slow growth of the municipalities of Tianjin and Shanghai, and Liaoning Province, which had the highest GNP per capita in 1978. According to Yang, GNP per capita grew from 1978 to 1989 by 289 percent, 219 percent, and 219 percent respectively for the above three regions, well below the national average of 380 percent (Yang 1992, 73). The GNP per capita of the most industrialized provinces and municipalities in the Eastern Region converged towards the mean value of the region during 1978-1989, narrowing the gap between the provinces in the Eastern Region. The other factor was the high growth that occurred in the least industrialized provinces and the provinces with middle-level income in the Eastern Region. The five eastern provinces of Jiangsu, Zhejiang, Fujian, Shandong, and Guangdong all had GNP per capita below the national average in 1978. But their GNP per capita grew from 1978 to 1989 by 437 percent, 573 percent, 529 percent, 462 percent, and 593 percent respectively compared with a national average of 380 percent (Yang 1992, 741). Their rapid growth contributed to the decrease in income inequality within the Eastern Region.

The decrease in regional income inequality during 1978-1989 within the Central Region can also be explained

by two factors. One is the slow growth of previously more developed provinces such as Jilin and Heilongjiang, whose GNP per capita growth rates, according to Yang Weimin, were 218 percent and 306 percent respectively during 1978-1989 compared with a national average of 380 percent (Yang 1992, 74). The other factor is the high growth of previously less developed provinces such as Anhui, Hubei, and Hunan, whose GNP per capita grew at 436 percent, 436 percent, and 406 percent respectively, compared with the national average of 380 percent (Yang 1992, 74).

Thus, relative inequality of provincial income surprisingly decreased in the early reform era until the early 1990s. This was largely due to slow growth of the rich provinces and rapid growth of some of the poor as well as middle-income provinces.

Income Inequality between the Three Economic Regions

The Eastern Region's share of the gross value of industrial output (GVIO) was consistently decreasing in the 1950s and 1960s (Table 14) due to the channeling of resources to the interior provinces. From 1965 to the mid-1980s, it stayed around 60 percent. In other words, the Eastern Region's share of GVIO did not increase immediately during the early reform period. It was not until the end

of the 1980s that it began to go up gradually. The Western Region had its largest share of GVIO at the end of the 1970s. Then it went up and down with a slight downward trend. Only the Central Region's share of GVIO exhibited an obvious downward trend during the reform era, especially at the end of the 1980s.

Table 14

Share of Gross Value of Industrial Output (GVIO) by Region, 1952-1993 (%)

Year	Eastern Region	Central Region	Western Region
1952	68.11	22.43	9.46
1957	65.24	23.00	11.76
1965	60.84	27.24	11.91
1970	59.87	27.39	12.74
1979	59.23	27.64	13.12
1980	60.82	27.54	11.64
1985	60.24	27.18	12.58
1991	63.75	24.52	11.74
1993	67.07	22.34	10.59

Source: Li 1996, 26.

An examination of the growth rates of NMP by the three economic regions is presented in Table 15. During the First Five-Year-Plan, the Western Region grew fastest, with an annual NMP per capita growth rate of 10.82 percent. The Eastern and the Central Regions had similar growth rates of

Table 15

Growth Rates of NMP Per Capita (%)

	Eastern Region	Central Region	Western Region
First FYP[a] (1953-1957)	7.12	6.96	10.82
Great Leap Forward and Readjustment (1958-1965)	2.94	3.12	3.72
Third FYP[a] (1966-1970)	4.08	3.16	0.79
Fourth FYP[a] (1971-1975)	4.79	2.44	2.67
Fifth FYP[a] (1976-1980)	8.95	7.91	8.69
Sixth FYP[a] (1981-1985)	12.60	12.14	12.05
Seventh FYP[a] (1986-1989)	15.13	14.05	14.68
1989-1991	5.76	3.48	6.11
1992	16.35	14.44	15.01

Source: Li 1996, 26.
[a] FYP refers to Five-Year-Plan.

about 7 percent. The failure of the Great Leap Forward caused the regional NMP growth rates to plunge to about 3 percent. The Cultural Revolution and the Third-Front program that took place during The Third and Fourth Five-Year-Plan resulted in the relatively low NMP growth rates. This again demonstrates the inefficiency of the Third Front, which was clearly at the expense of national growth, and the disruptive effects of the Cultural Revolution on Chinese economy. Even with the pro-interior regional economic policy, the Eastern Region still grew faster than the Central and Western Regions. During the Third Five-

Year-Plan, the Western Region's NMP per capita grew at 0.79 percent, much slower than the Eastern Region (4.08 percent) and the Central Region (3.16 percent). During the Fourth Five-Year-Plan, the Eastern Region was still apparently in the leading position. Its per capita NMP grew at 4.79 percent compared with 2.67 percent of the Western Region and 2.44 percent of the Central Region. In the reform era (the Fifth, Sixth, and Seventh Five-Year-Plans), however, the three regions showed surprisingly similar NMP growth rates until the early 1990s.

Thus, according to Table 14 and Table 15, spatial income inequality between the three economic regions declined prior to the Third Front activities. It increased during the Third Front and the Cultural Revolution. In the early reform era, the situation of spatial income inequality did not worsen. It was not until the early 1990s that the Eastern Region began to outgrow the Central and the Western Region. Because of incompleteness of data, nothing can be said with confidence regarding regional income inequality since the early 1990s.

CHAPTER SIX

SUMMARY AND CONCLUSIONS

Empirical evidence examined in Chapter Five indicates that neither absolute nor relative measures of regional income inequality declined during the pre-reform era. In fact, absolute income inequality widened substantially throughout the period, and relative inequality had become more pronounced by the end of the pre-reform era.

While major changes were not achieved, it would be a mistake to conclude that the pre-reform regional economic policy failed. According to Williamson's Inverted-U Model (Williamson 1965), one would expect substantial increase in regional income disparity in the early years of economic development. In China's case, one does not see a clear triumph of inequality. If not for the vigorous implementation of the interior-oriented regional economic policy, there would have been greater polarization in the coastal region. The pre-reform regional economic policy

transferred wealth from rich provinces to poor ones through the central government's redistribution function, which, in the short term, helped to reduce regional income disparity. In the long term, however, it failed to bring about real improvement in regional income inequality.

Though the pre-reform regional economic policy was not a total failure, it was carried out at an extremely high cost, and at the expense of overall growth and efficiency. The entire 1949-1978 period saw a respectable growth of output, combined with massive waste of the fruits of growth. Real Net Material Product per capita grew at about 3 percent during 1953-1978 (Naughton 1991, 251). But rapid economic growth had not brought substantial benefits to the population in terms of consumption, nor had it laid a healthy foundation for future growth. On the eve of reform, the Chinese economy was on the verge of collapse. A principal reason for the deterioration of the Chinese economy was the massive waste of resources on industrial development in inland locations. During the Third Front, for example, over a billion yuan was spent on a large-scale integrated steel mill at Jiuquan in Gansu Province, a plant that finally was able to produce only a modest quantity of pig iron (Naughton 1991, 246). By the end of the 1970s, Chinese planners were struggling with hundreds of

unworkable, misdesigned, or incomplete projects. According to Barry Naughton's estimate, more than half of the additional output created by economic growth between 1953 and 1978 was either completely wasted, spent on the military, or tied up by the inefficiencies of the economic system (Naughton 1991, 248).

The pre-reform regional economic policy was aimed at promoting regional income equality, but was not successful. It was able to prevent the escalation of regional income disparity, but at a huge cost. The pre-reform regional economic policy was to blame for a massive waste of China's limited resources, which eroded the Chinese economy. The policy left China with more negative than positive legacies.

The pro-coast regional economic policy implemented from the end of 1978 through the early 1990s utilized economies of agglomeration and stimulated national growth. Real national income rose from an annual average of 6 percent during the 1952-1978 period (Linge and Forbes 1990, 1) to 9 percent from 1979 through 1993 (Naughton 1995, 329). Not only did the Eastern Region grow rapidly, but the Central and Western Regions grew as well (Table 15). Surprisingly, the policy did not cause immediate increase in regional income inequality, which actually declined in the early reform era (I define the early reform era as the period from

1978 to 1993). This was primarily due to rapid growth in previously less developed provinces (Guangdong, Fujian, Jiangsu, Zhejiang, etc) in the Eastern Region, and the slow growth of the three municipalities of Shanghai, Beijing, and Tianjin, and the northeastern provinces of Heilongjiang, Jilin, and Liaoning--the traditional industrial bases. According to Deng Xiaoping, the reform process is highy experiemental, just like "crossing the river by groping for stones". Reform should start in the provinces of Guangdong and Fujian, which are far from the traditional industrial bases, but close to Hong Kong and Taiwan because even if the experiment failed, the important industrial cities and provinces would not be affected. While state and foreign investment boosted the economy of Guangdong and Fujian, local industrial investment in village and township enterprises stimulated the growth of Jiangsu and Zhejiang. Meanwhile, the old industrial bases were growing at a relatively slow pace due to the lack of investment and the obsolescence of traditional industries.

The reduced regional income disparity in the reform era in no way implies that the new regional economic policy tends to improve the situation of regional economic inequalities. Provincial income inequality was likely to rise after the early 1990s when the Chinese economy began to

accelerate toward a free market. The automatic working of the market tends to reinforce the existing regional income inequality. Moreover, the central government has shifted its attention from the southern provinces of Guangdong and Fujiang to Shanghai since 1990. Shanghai, with its rich experience in finance, trade, industrial development, large inflows of state and foreign investments, and quality supplies of human resources, has been developing at an incredible speed. Though the three northeastern provinces are still lagging behind, Shanghai's growth will tend to enlarge the development gap between the Eastern Region and the Central and Western Regions.

Though no prediction can be made with confidence due to the lack of data, it is likely that regional economic inequalities will remain a long-term phenomenon in China. According to Harry Richardson, spread effects will not be created around a growth pole in the early years of its implementation, and very long time horizons are needed for a successful strategy (Richardson 1976, 1).

The choice between growth and equality as reflected in China's regional economic policy is a result of both prevailing development philosophy and politics. The pro-interior regional economic policy responded to egalitarian values and China's perceived needs for national defense.

The pro-coast regional economic policy was designed to replace the pro-interior policy because of the failure of the pro-interior policy, the influence of Western development theories and experience, and Deng Xiaoping's philosophy of uneven regional development.

The pro-coast policy stimulated economic growth, but it could not guarantee a harmony of interests among the regions. The inland provinces have already voiced their discontent by bargaining with the central government for more favorable policies, and by prohibiting the outflow of raw materials to the Eastern Region. The latter is called "economic warlordism" (Jiang 1992; Shen and Dai 1990), or "local protectionism", which is a direct spatial outcome of the new regional economic policy. Local protectionism is highly detrimental to the economy as a whole, and will tend to worsen the situation of spatial economic inequalities.

The dissatisfaction expressed by the leaders of the inland provinces and continuous ethnic conflicts in the border provinces intensified the fear of disintegration of the nation. Consequently, the regional economic policy of China's Ninth Five-Year-Plan (1995-2000) deviates from that in the 1980s and the early 1990s--uneven regional development is to be corrected rather than tolerated. Narrowing the regional gap of development and promoting

regional economic coordination constitute one of the nine main objectives of the Ninth Five-Year-Plan. The central government promises to increase investment in the Central and Western Regions. The Ninth Five-Year-Plan no longer refers to the three economic regions, but advocates large economic regions that are held together by "central cities", a Chinese version of growth poles.

The Chinese government has again made a choice between growth and equality. The above adjustments to China's regional economic policy reflect the prevailing criticisms of the pro-coast regional economic policy as well as the political complexities of China.

This study evaluates data only until 1993. As is obvious, when data for later years become available, it would be beneficial to analyze the most recent situation of regional income inequality in China. Moreover, a study of interregional inequality in consumption will be helpful to an overall understanding of regional economic inequalities. Regional consumption inequality is more related to people's living standards than regional income inequality already examined in this study.

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