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TRADE LINKAGES AND ECONOMIC GROWTH IN CHINA

A thesis submitted in fulfilment of requirements
for the award of degree of
Doctor of Philosophy



from

THE UNIVERSITY OF WOLLONGONG

by

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January 1996

AUTHOR'S CERTIFICATION

I certify that this thesis has not been submitted previously for any other degree and that it is the product of my own independent research.

I certify that any help received in preparing this thesis, and all sources used have been acknowledged in this thesis.

Xihua Wu

ABSTRACT

The recent resurgent interest in the process of economic growth among academic economists has been characterised by an endeavour to invoke knowledge and human capital as determinants of long-run economic growth and, thereby, empirically explain the divergent patterns of rates of economic growth observed across countries and regions. This approach is distinctive from the conventional growth paradigm, which in contrast, concentrates mainly on the growth of physical inputs as the sources of growth. The new approach, by endogenising technical change, has created a framework in which to explain why economic institutions and policies can have long-run effects on growth rates.

This thesis examines the post-reform (1978-92) growth experience of China, with respect to the relationship between (i) trade, investment, and economic growth; (ii) the rise of township enterprises (TWEs) and economic development; and (iii) government policies and economic growth, in light of endogenous growth theory. In this study, a number of hypotheses are examined against the data sets of the aggregate economy and three Chinese regional economies (1978-93) in a simple log-linear econometric framework. To allow for the likely presence of inter-regional correlations between the regressions' error terms, A. Zellner's iterative seemingly unrelated regressions technique is used to estimate the regional equations.

The study identifies three major elements in the rapid post-reform growth, namely, the continued expansion of foreign trade, the rapid growth of the nonstate sector comprising TWEs and foreign-funded enterprises, and the high levels and rates of savings and investment. These are in turn a function in part of government policy choices. The results indicate that the influence of foreign trade and investment on the Chinese economy has been positive and significant over the 1978-93 period. Exports and imports, either when treated separately or taken as the joint trade variable, all seem to have a significant effect on long-run economic performance. The results also show that the strong growth of the nonstate sector has positive and significant effects on economic growth.

The major findings of this study strongly support the basic theoretical contentions found in the endogenous growth literature. They are consistent with the main stylised facts of growth and structural change which are occurring in China, as reviewed in this study. These findings have also underlined the importance of government policies, such as the decisions taken in the late 1970s and early 1980s to transform rural institutions and reform the enterprise system; the sequenced measures to liberalise the foreign trade and exchange regimes, and the efforts to promote physical and human capital infrastructure.

This study suggests that future policy making in China should be directed towards further promoting outward-looking, export-oriented industrial activities, reducing distortions and protectionism, enhancing privatisation, improving economic efficiency and encouraging competition, and stabilising the macroeconomic environment.

IN MEMORY OF MY FATHER

WU DONGZHOU

12. 1932 - 7. 1995

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CHAPTER 1

INTRODUCTION

1.1 Background to the Study

This study is concerned about explaining economic growth in China over the post-reform period. This topic is of intrinsic interest because China's development since the late 1970s constitutes one of only a handful of successes among developing countries. The Chinese success is also of interest because much of what has happened in China today should be of interest elsewhere, to the extent that the Chinese performance is replicable; and because much of what we can learn from today's experience should be of value for the future development of the country. Therefore, for those developing countries that are intent on accelerating their own development, Chinese development provides a model indicating possible ways to success; and for China itself, its past experience suggests future directions, both for policy and action. As well, selecting this subject as topic for this study reflects recent attention by academic and policy economists in the issue of the relationship between policy choices and long-term growth performance. In this perspective, the Chinese case has seemingly well illustrated the strength of the predictive power of recent theoretical approaches to growth.

Since the economic reform program was initiated in 1978, China has emerged as a dynamic growth performer and a major trading nation in the world economy. Over the period of 1978-1992, China's real GDP has grown at an average annual rate of over 8 per cent, and has more than doubled in absolute terms. Productivity has increased markedly in the same period, reflecting improved efficiency of resource allocation

resulting from market-oriented reforms¹. Associated with the strong economic growth has been an emerging structural shift. Agriculture's share of China's gross national product fell from 28 to 24 per cent between 1978 and 1992, while the share of industry has remained barely changed. The service sector has exhibited a distinct upward trend, with its share of GNP climbing from the initial 23 per cent to 28 per cent. These trends in part reflect deliberate government efforts which have been directed toward encouraging service industry along with light industry².

Over the same years China's foreign trade continued to expand dramatically. In 1978, on the eve of reform, China's trade turnover was only US\$ 20.6 billion, whereas by 1993 it increased to reach US\$ 195.8 billion³. Exports climbed from a mere US\$ 9.7 billion in 1978 to approximately US\$ 92 billion in 1993 (Wu Yi, 1994). Not only did exports rise, but they also became more sophisticated. As Chapter 3 indicates, in 1978 manufactured goods provided less than half of China's export receipts. By 1993 they comprised more than 80 per cent of all exports. This and other indicators presented in Chapter 3 all confirm that China's comparative advantage has been undergoing a major transition characterised by a shift from primary products towards unskilled labour-intensive manufactures⁴.

The continued expansion of foreign trade has not only enhanced China's role in the world economy but also exerted greater effects on the domestic economy than at any other period in China's history. In 1978 China was ranked the thirty-second in terms of trade turnover. By 1993 it became the world's eleventh largest trading nation. Its share of world exports rose from an initial 0.75 per cent in 1978 to 2.5 per cent in 1993.

¹ See Li Jingwen (1994)

² See Chapter 3.

³ The figures are valued at current prices.

⁴ For an extensive discussion of the changing pattern of China's comparative advantage see Anderson (1990).

Moreover, a good portion of China's exports are now sold to industrialised countries. This in part reflects China's industrial strength; and also reflects the growing opportunities presented by the ongoing structural transformation of industries in major market economies. The enhanced influence of foreign trade on the domestic economy is largely evident in the share of the external sector in domestic output. At the outset of reforms, trade accounted for about 13 per cent of GDP; by 1992 the share of trade in GDP stood at 21 per cent⁵. This indicates improved linkages between the domestic economy and international markets.

Underpinning the rapid expansion of foreign trade, which reflects the shift in trade policy towards outward orientation, is the rise of the nonstate sector, comprising township enterprises (TWEs) and foreign-funded enterprises. A notable feature of the post-reform economic development has been the emergence of growing disparities among different types of enterprises. The nonstate sector has been growing much more rapidly than state-owned enterprises (SOEs)⁶. The latter, although still a relatively big portion of the economy, have continued to suffer from low levels of economic efficiency. The difficulties faced by the SOEs have been recently compounded by the adoption of an internationally comparable accounting system which has begun to reveal losses hidden by the former system. The nonstate sector has been growing dynamically. Its dynamism has manifested itself in many ways. Its growing contribution to export expansion is just one of the instances. The detailed implications for economic policy of the expanding role of the nonstate sector are not yet clear. However, we do have a fair understanding about the range of forces that have led to the growth of the nonstate sector. The changed supply conditions resulted from the rural structural transformation and growing market demand explain much of the growth of TWEs, while the boom in foreign-funded enterprises is attributed largely to the evolving policy environment following the implementation of the open policy.

⁵ See Table 3.15.

⁶ See Rawski (1994); Jefferson and Rawski (1994), and Wanda Tseng *et al.* (1994).

China has actively encouraged foreign investment since the start of reform. Wide-ranging policies to attract foreign capital inflows have been pursued from providing favourable physical incentives (e.g. tax exemptions) to soft legal arrangements. These policies have served one common goal: acquiring technology and management and marketing expertise in the process of conducting investment activities. Starting at a low level in the early 1980s, direct foreign investment (DFI) flows into China, which partly reflect the activities of multinational corporations, rose to reach US\$ 25 billion in 1993. In cumulative terms, during the period 1978-1993, China has approved 174,000 foreign-funded projects with the pledge and actual investment amounting to US\$ 221.9 and 61.8 billion respectively (Wu Yi, 1994). By the end of 1993, there were 83,000 foreign-funded enterprises that had been established and put into operation. These enterprises have made significant contributions to continued trade expansion in China.

The rapid trade expansion in the overall post-reform period underlines the importance of the government's efforts to promote both bilateral and multilateral trade relations. By 1993, China had established various forms of bilateral economic and trade relations with more than 220 countries and regions. China also attaches much importance to the multilateral trading system. In the early 1980s China joined both the World Bank and the International Monetary Fund. In the mid-1980s China became a member of the Asian Development Bank and initiated the process of resuming membership of the General Agreement on Tariffs and Trade. These arrangements allowed China to accommodate changing world market conditions, and helped to promote integration of the domestic economy with international markets.

Another fundamentally important feature of the Chinese economy is that disparities among the growth rates of industry in different regions have been growing, with those in east coast provinces much higher than elsewhere. This phenomenon can be largely attributed to policy measures and, to a less extent, to other economic and social conditions. The open policy, which was initially implemented in the late 1970s, contains

two major components: an export promotion strategy and a spatial open strategy. The spatial strategy, which is called by the Chinese as the *Multilevel Arrangement*, is basically an attempt to encourage DFI inflows through providing distinct policy incentives. Until the early 1990s, this strategy had been only implemented in the coastal provinces⁷.

Throughout the 1980s, China also accorded preferential treatment to the coastal regions in an range of policy areas including the creation of special economic zones (SEZs), provision of higher foreign exchange retention rates, and increased flexibility in managing foreign trade. In addition the government tried to launch what was called an export-oriented strategy in the coastal regions. These far-reaching policy initiatives were introduced to accommodate changing international economic conditions, characterised by growing labour scarcity in Japan, Korea, Hong Kong and Taiwan, China, and massive structural adjustments in these economies in the 1980s.

The coastal regions stood to gain from the above policy changes in two ways. At the domestic level, they were able to realise large gains from trading new products, the production of which used relatively new technology imported from overseas. The coastal regions were also able to pursue comparative advantage in producing labour-intensive goods, which in turn were traded for capital-intensive and high-tech goods from overseas. They have reaped substantial benefits from this type of economic interaction with Hong Kong and, more recently, with Taiwan, China. Changing comparative advantage and structural adjustments in Hong Kong and Taiwan, China in the second half of the 1980s initiated the process of shifting some of their traditional production processes to lower-cost bases. The adoption of the spatial strategy and the creation of the SEZs coincided with the above development, providing investors from

⁷ See Chapter 4.

Hong Kong and Taiwan, China, with the most convenient and logical places for the reallocation of their production.

The growing economic interactions among the three regions, namely, Southern China (Guangdong and Fujian), Hong Kong, and Taiwan, China, have been classified into what is known as the Southern China Growth Triangle⁸. While the detailed implications for the regional economy of this development are yet to be explored, the major forces that have driven the emergence of the triangle are clear to us. In general the economic co-operation among the member economies has been pursued on the basis of the following major factors: 1) Economic complementarity; 2) Geographical proximity and cultural affinity; and 3) Political commitment and policy co-ordination. Each of the member economies has benefited from the co-operation in its unique way. Insofar as Guangdong and Fujian are concerned, the most important benefits have been the acquisition of appropriate technology, management skills, marketing expertise, and capital. These perspectives have in part accounted for the superior economic performance in these two provinces.

The growth acceleration in the post-reform era has been driven mainly by government policies, though private sector initiatives have also played an indispensable role. The government has intervened strongly in the post-reform growth process. This is not much of a surprise given the dominating characteristics of the Chinese economic and political system. Indeed, the Chinese government has always exerted a strong hand in the economy since the communist regime established itself as the legal government of the country. However, the type of intervention observed during the reform period contrasts sharply with what was seen in the pre-reform period. The government then controlled the economy by limiting and even eliminating market functions whereas today the state has been influencing the growth process through fostering and

⁸ See Chen and Ho (1993) for a detailed discussion.

maintaining market forces and increasingly resorting to market rules. The change in the mode of intervention reflects the strategies adopted by the government. Over the pre-reform period, the government adopted a class-struggle-first strategy, which automatically meant that economic growth and social development was at best a secondary objective. In contrast, the government today sees economic growth and social development as the top priority of its policy agenda. In accordance with the growth-oriented strategy, the government has persistently performed four major policy functions since 1979: creating and maintaining growth-inducing macroeconomic policies; securing openness to international trade, investment and technology; creating an environment that encourages private investment- both domestic and international- and competition; and sustaining high levels of investment in human capital. These policy aspects have stood at the centre of China's economic reform program and open policy.

1.2 Objectives and Scope of the Study

The prime objectives of this study are to investigate the nature of the post-reform economic growth in China, identify the major growth determinants, and suggest some possible scenarios for future development. This general objective is to be pursued from both qualitative and quantitative perspectives. In particular, the study proposes to investigate the relationship between (i) trade, investment, and economic growth; (ii) the rise of TWEs and economic development; and (iii) government policies and economic growth.

The relationship between trade and economic growth has been an extensively researched and hotly debated problem among economists⁹. The central issue is whether

⁹ See Chapter 2.

the dictates of comparative advantage are incompatible with the conditions for the acceleration of development. Within mainstream economics there are opposing views on this issue. In the orthodox interpretation as expounded by classical and neoclassical economists, foreign trade can have propulsive effects on economic development. International specialisation according to comparative advantage benefits a country by improving the efficiency of resource allocation (static effects) and transforming existing production functions (dynamic effects). The dynamic perspective of trade is explicitly treated in the classical theory of international trade, neatly explored in development theory, and carefully dealt with by some neoclassical economists, and much explored recently in the endogenous growth framework¹⁰.

Alternative theories, in contrast, often deny the view that trade will transmit development. Gunnar Myrdal, for example, refuted the neoclassical position of mutually beneficial trade¹¹. To Myrdal trade does not by itself necessarily work towards equality in the remunerations to factors of production and consequently, in income. On the contrary, it may have strong backwash effects on the less developed countries. Similar views are expressed in the celebrated Singer-Prebisch thesis¹² and Emmanuel's 1972 Essay¹³ on unequal exchange. The latter argues there is a transfer of reinvestable surplus value from the periphery of the world economy to the centre via the terms of trade. Trade is believed to be unequal to the under-developed countries because their terms of trade are found to be lower than they would be under a Pareto efficient trade arrangement. The Singer-Prebisch thesis, however, maintains that a systematic bias in

¹⁰ E.g., Smith (1910), Hirschman (1958, 1989), Corden (1971), Lucas (1988). See Chapter 2 for a review of the recent development of endogenous growth.

¹¹ See Myrdal (1957, Ch 5).

¹² R. Prebisch *The Economic Development of Latin America and Its Principal Problems*. Department of Economic Affairs, N. Unidas, 1950. H. W. Singer, 'The distribution of gains between investing and borrowing countries,' *American Economic Review*, 40, no. 2:337-382.

¹³ A. Emmanuel, *Unequal Exchange: A Study of the Imperialism of Trade*. New York: Monthly Review Press, 1972.

the distribution of the gains from trade against less developed countries was revealed by a secular decline in the terms of trade of primary producers vis-a-vis those of manufactured-goods producers. This tendency will result in a long-term transfer of income from developing to developed countries.

In this study we postulate a positive relationship between foreign trade and economic growth. Trade may have influenced the growth process through creating positive externalities and increasing spill-overs such as technology transfer and learning-by-doing. This proposition is consistent with the major contentions from mainstream economics and in particular from the endogenous approach. The sequenced trade reforms and the spatial opening strategy, under the above postulation, can all have contributed to accelerating economic growth.

The study will involve analysis of both the aggregate and regional perspectives. Three regional economies- two provinces and one province-level municipality will be included in the study. This selection has basically represented two geographical groupings: inland and coastal; and has also reflected the purpose of including regions with different levels of economic development. Ideally, we should incorporate a region in the far west of the country so to have a better geographical and economic representation, but that attempt has been frustrated by impediments which restricted data collection.

1.3 Testing Techniques and Procedures

A simple log-linear model in the spirit of endogenous growth theory is to be developed to examine empirically the relationship between long-term economic performance and a number of variables including trade, investment, government

spending as well as the SOE share in industrial production. We will estimate the basic model using aggregate data set by least squares.

For the regional analysis we apply Zellner's seemingly unrelated regression equations (SURE) framework to allow for the likely presence of inter-regional correlations between the regressions' error terms. We will estimate each of the regional equations individually by the OLS method and apply the generalised least squares to the pooled econometric model. The results from these two methods are then compared to examine the probable improvement on the estimated sample precision¹⁴.

1.4 Outline of the Thesis

This thesis consists of six chapters. Chapter 2 contains a historical review of the main strands of literature on the subject of trade and economic growth. Particular emphasis is placed on the recent attempts to link trade and long-term economic performance. It begins by analysing the Harrod-Domar growth model and noting the main attributes of that model. It proceeds by presenting major theoretical responses to the above model, highlighting the Solow-Swan growth models, whilst affording a brief treatment to alternative responses such as the Cambridge growth model. It then looks at Arrow's learning-by-doing model. It next examines some of the new approaches that theoretically emphasise technical progress and human capital formation and methodologically, grapple with technical externalities, increasing returns and market imperfection. Some literature drawn from development studies but which can be applied to international trade are also discussed. The chapter ends with a summary of the major contentions from the literature.

¹⁴ For a full discussion of the testing procedures see Chapter 5.

Chapter 3 provides a close examination of the growth of, and structural changes in, the Chinese economy from the early 1970s to the early 1990s, by organising data on population, total product and some of its components. There is first a brief look at the movement of population and labour force in the sampled period. Then the growth of GNP, and GNP per capita is explored at both the aggregate and regional levels. There is clear evidence that the economic growth rates for both the aggregate and regional economies have been accelerating, when observed both for GNP and GNP per capita. The three major elements in the growth acceleration, as observed over the post-reform period, have been the rapid growth of investment, continued expansion of foreign trade, and the rise of TWEs. Next the chapter evaluates structural changes, particularly in output and employment. The patterns of TWE production are also discussed because these and the associated migration and urbanisation have been a major feature of China's economy since the late-1970s. Finally the chapter addresses the issue of external trade with respect to the growth of trade volume, market orientation, and the composition of exports.

The rapid economic growth and dramatic structural changes which occurred in China's economy as revealed in Chapter 3 are largely the effects of government policy changes. These policy changes are discussed in Chapter 4. The chapter first provides an overview of reforms in the rural and SOE sectors, and of the opening policy. Then it looks at the main features of the pre-reform foreign trade system. Next the chapter moves on to a detailed analysis of reform in foreign trade, concentrating on the decentralisation of foreign trade decisions, the restructuring of the foreign trade planning system, the institution of licensing management, and the transformation of foreign exchange determination and allocation systems. After examining the foreign trade contractual responsibility system, the chapter concludes with a brief evaluation of the reforms in trade institutions.

Chapter 5 presents empirical evidence bearing on a set of economic hypotheses relating to economic growth in China. The Chapter starts by specifying the model to be estimated. Then it tries to spell out the estimating procedures and defines estimating rules for a SURE model. The basic rules concerning the Ridge Regression technique are also discussed. After describing the nature of the data used in the empirical analysis and the limitations of these data, the chapter presents and discusses the estimated results. It is shown that the growth of government spending, foreign trade, investment and the share of SOEs in industrial production is strongly endogenous to the growth of the economy. The findings strongly support the basic contentions found in the endogenous growth literature, which are examined in Chapter 2, and also verify a number of qualitative observations made in Chapters 3 and 4 regarding the Chinese economy. These findings in general accord with the basic results of a number of cross-section and country studies on less developed economies including China. The results indicate that the State can influence the growth process through policy choices. Finally the chapter summarises the major findings and draws a number of policy implications.

Chapter 6 concludes the study by bringing together the main findings and conclusions of the study. The chapter first tries to come up with a brief recapitulation of the major conclusions. Then it presents policy recommendations for future policy making. The chapter ends by highlighting the major findings of the study and indicating possible further research directions.

CHAPTER 2

TRADE AND ECONOMIC GROWTH: A SURVEY

2.1 Introduction

The recent resurgence of interest in the process of economic growth among academic economists has been characterised, in principle, by an endeavour, to invoke knowledge and human capital as determinants of long-run economic growth and, thereby, empirically explain the divergent patterns of rates of economic growth as observed across countries and regions. This approach is distinctive from the conventional growth paradigm, which in contrast concentrates mainly on the growth of physical inputs as the sources of growth. The new approach, by endogenising technical change, has grappled directly with the problem of linking various government policies to growth performance. Government, thus, by changing the policy parameters, can influence the long-run rate of growth. This direct implication is absent from the mainstream growth economics in that government policies deployed to stimulate growth come up against diminishing returns in the long run.

This chapter attempts a survey of the main strands in the formal growth model literature from Harrod's 1933 article down to the present; and a brief summary of the efforts of a handful of trade theorists who have dealt directly with the issue of relating international trade and economic growth¹. This coverage excludes not only the classical writers, such as Smith, Malthus, Ricardo, Mill and Marx but also Marshall, Wicksell,

¹ We exclude from this survey other strands of trade literature to focus our attention on the central theme.

Robertson, some of the great economists of our century. But these great minds' contributions to modern growth theories are well recognised². In the review, we endeavour to position the various theories in relation to one another by underlining two theoretical contentions: to characterise the basic methodologies used in the formulation and to analyse the driving forces of economic growth identified by the models. This will, by no means, exhaust all aspects of growth theory. We pursue three objectives in this survey, namely, (1) to outline the evolution of the theory of economic growth, (2) to spell out what has been learnt about the growth process and, (3) to gain insights for policy. This will enable us to know where our own research stands in relation to the currency of the area in which the research is to be conducted.

We begin with the Harrod-Domar growth model by noting the properties of the model's methodology and the driving forces of growth the model has characterised. We proceed with presenting major responses to this model. In this respect, we seek to highlight the Solow-Swan growth models, whilst affording a brief treatment to alternative responses such as the Cambridge growth model, etc. This decision is mainly based on our subjective judgement on two things, namely, the prominence of the

² Long-run growth has been given much prominence in classical economics, and is seen essentially as a product of capital accumulation. In Smith (1910), for example, capital is one of the three indispensable factors of production (the others: Land and labour). It permits the widening of the market and, thereby, the division of labour, which, in turn, influences productivity (pp. 4-11). See Eltis (1984), also Rostow (1990) for a detailed review of the classical growth theory; Brue (1994) and Castle (1991) for the evolution of economic thought.

Marshall, who inherited much from his predecessors (particularly, Ricardo and Mill), had a deep interest in growth. His distinction of firm and household-level optimisation and equilibria, and his conceptualisation of increasing returns to scale being external as well as internal, have been evident in the recent formulations of formal growth and trade models.

respective theories; and the degree of relevance in terms of their relations to the proposed direction of our study. We next turn to Arrow's learning-by-doing model. The model proposes that there is new choice of technique at any point of time, where newer machines are better than older machines because of technical progress (Stiglitz & Uzawa, 1969, 4); and moreover, the rate of technical advances depends on the level of investment. We then move on to some of the new approaches that theoretically emphasise technical progress and human capital formation and methodologically, grapple with technical externalities, increasing returns and imperfect markets. Discussion here incorporates two types of literature: that which has been devoted to endogenising growth; and that which has been dedicated to linking trade and growth. One portion of the second category falls in line with the same direction of the first, whereas the rest of the second category is drawn from development studies that are applied to international trade. We finally present empirical evidence and examine the relevance of the theories for policy from the perspective of a developing country.

2.2 Models Assuming No Technical Progress

2.2.1 The Harrod-Domar Model

Harrod (1939) pioneered academic efforts to formally model growth³. By adopting the Keynesian short-run, static equilibrium approach, Harrod concentrated explicitly on the nature of macro equilibrium conditions between saving and investment (ex ante) in a growing economy. He enquired into two related issues, namely, the possibility of

³ Hahn and Matthews (1964) has provided an exciting and excellent survey of early formal growth models. Later surveys, syntheses, or compendia are found in Burmeister and Dobell (1970), Hahn (1971), Sen (1970), also Stiglitz and Uzawa (1969), among others.

steady-state growth, and the instability of this steady-state path. He responded to these issues by resorting to the concepts of warranted and natural growth rates, applying to growth the combination of the acceleration principle and the theory of multiplier upon which he had constructed his 1936 *Trade Cycle*⁴. The building blocks upon which he constructed his model are distinctive in the following ways: (1) a constant fraction (s) of income (Y) is devoted to savings, that is, the incorporation of the Keynesian multiplier, (2) incremental capital required for producing a unit of output is given at any point of time and, (3) The constant population growth rate, determined by non-economic, demographic forces, imposes a ceiling on the long-run growth of output.

Harrod noted the tendency for divergence between the warranted (G_w) and natural (G_n) rates of growth (1939, 30) and focused on the difficulty of eliminating such a discrepancy (1948, 85-91). "...[T]here is no inherent tendency for these two rates to coincide⁵." The system cannot advance more quickly than the natural rate permits. If the proper warranted rate given by s/C is greater than the natural rate given by $n+m$, the system will encounter the employment barrier once the initial slack is absorbed, and depressions will drag down the warranted rate below its "proper level". On the other hand, if the warranted growth rate falls short of the natural rate, then the unemployment rate will grow larger and larger. Thus, "equilibrium growth at full employment has to go, it seems, along a narrow path in-between the twin dangers of Scylla and Charybdis⁶".

Domar (1946) independently tackled the problem of defining the inherent instability of a growing economy in a somewhat different vocabulary but to the same effect. His essential concern is, in the words of Rostow (1990, 334), "the unlikelihood that s [the

⁴ R. F. Harrod, *The Trade Cycle*, London: Oxford University Press, 1936.

⁵ Harrod (1939, 30).

⁶ Sen (1970, 15).

natural rate of growth] will be high enough to match G [the warranted rate of growth]". This led him to the conclusion that interventionist compensatory measures of public policy will be required to raise s .

With respect to the determinants of economic growth, the Harrod-Domar approaches have naturally hung on saving and investment. The influence of this emphasis led to savings' revival as the fuel which drove the engine of economic growth and development⁷. Development agencies, such as the United Nations, gave great prominence to the need to raise the saving ratio. Economists the world over provided the prescription of an increase in the saving ratio as the key to enhancing the growth rates of the less developed countries⁸.

As the Harrod-Domar analysis asserts, steady-state growth requires that $s=Cn$ and, since each variable is independently determined, the stability condition is likely to occur only as "the merest fluke." Subsequent developments in growth theory included formulation of models in which the determinants of C and s were defined such that the

⁷ Saving and investment, in classical model, was accorded overriding importance in sustaining growth. However, under the influence of the Stagnation thesis and the great Depression, Keynes (1936) downgraded saving to such a point that it was viewed as inimical to economic growth, and took investment demand as the main growth determinant. (See Chaudhri and Wilson, 1994; Hamberg, 1971, Ch. 5).

⁸ Rostow (1960) for example, saw the raising of saving ratios as the key to understanding the process of development and the "take-off" into enhanced growth. This is evident from his argument that "... the preconditions for take-off include an initial ability to mobilise domestic savings productively, as well as a structure which subsequently permits a high marginal rate of savings" (pp. 39). Other authors, such as Lewis, had a similar emphasis.

economy could be brought back toward a steady growth path⁹ in case of a shock.

Cambridge models of growth¹⁰ respond to the Harrod-Domar problem via changes in income distribution and the saving-consumption ratio. Since the savings both of workers and capitalists are a function of their incomes, and capitalists' propensity to save is higher than that of workers¹¹, the aggregate saving-income ratio depends on the distribution of income between workers and capitalists. Hence, the saving-income ratio has become a variable, rather than being a constant like in the Harrod-Domar model. Shifts in the aggregate marginal propensity to consume are stabilising if the proportion of income saved at the margin is higher for property owners than those receiving wages and salaries. Obtaining of stability of the system, under this circumstances, depends on the initial full employment assumption.

⁹ For an exposition of various versions of models responding to Harrod-Domar approaches see Hahn and Matthews (1964).

¹⁰ The so-called Cambridge models of growth are attributed to Kaldor (1956; 1957; 1961); Kahn (1959); Robinson (1956; 1962). Kaldor (1956) originated the approach. Pasinetti (1962) has provided a modified version.

¹¹ Kaldor, in setting forth his version of the saving function, distinguished saving coefficients essentially according to classes of income. Pasinetti, in contrast, approached the distinction by classes of persons, and has proposed that workers have the same propensity to save for their interest income as for their wage income, but this propensity is lower than that of capitalists who derive their income exclusively from property.

2.2.2 The Neo-classical Model

The most prominent approach replying to the Harrod-Domar analysis is the well-known neo-classical models of growth¹². The essence of the model is best understood in the elegant formulation of Solow's 1970 lecture¹³.

Solow shows in his 1956 paper that by retaining all of the Harrod-Domar assumptions except that of fixed proportions, with a "well-behaved" production function, there is the possibility of obtaining harmoniousness between the long-run growth rate given by s/C and the natural growth rate of population n . The burden of adjustment falls, here, on the capital-output ratio. Growth, in Solow's model, is fuelled essentially by saving and investment. However, the long-run equilibrium growth rate is independent of saving, for increases in s are ultimately- in the long run- offset by a compensating decline in the output-capital ratio (or a rise in capital-output ratio, C). Therefore, a higher s , which possibly leads to a higher absolute level of income per person, does not result in a higher rate of growth for the economy. The message for long-run rates of growth is clear as is the model's implication for policy. In the long run countries will converge to the same rate of growth. Any public policy which is designed to stimulate growth by raising investment will in the long run come up against

¹² The typical representatives of this version of growth are Solow (1956), Swan (1956), Meade (1961), and Uzawa (1961). The model distinguishes itself from the Harrod-Domar growth by possessing a production function which allows for a continuous set of alternative capital-labour ratios, and therefore capital-output ratios. Consequently, the equilibrium (warranted) growth rate, instead of being a constant as in the Harrod-Domar model, follows the capital-output ratio in becoming a variable, thereby permitting this growth rate to achieve equality with the full employment (natural) growth rate.

¹³ R. Solow, *Growth theory: An Exposition*, Oxford: Oxford University Press, 1970. There Solow focuses on three terms: the saving rate, s ; the capital-output ratio, C ; and the rate of growth of the labour force, n .

diminishing returns and be unable to influence the long-run rate of growth. Such policy will, in Lucas's (1988) terms, have "level effects" but not "growth effects".

The contribution of the neo-classical growth model, as Sen (1970) argued, lies in the establishment of the stability of the neo-classical growth equilibrium by means of a simple adjustment mechanism, and this was undoubtedly "a major step in the history of growth theory." But, in terms of the determinants of growth, the theory has been subjected to many objections¹⁴. The major blame is on the theory's lack of treatment of technological progress¹⁵. This is well summarised in a quotation from Schmookler (1972, 70):

[W]hile neo-classical economic theory has many important applications, it is poorly related to what really happens in the long run. It suffers from this deficiency mainly because it makes no provision for changes in technological knowledge...technical change has to be introduced into the analysis from the outside. It is assumed, not explained. Thus what is certainly one of the most important determinants of price and output in the long run is entirely outside the range of the theory.

Exponents of the theory, however, have responded to this criticism by describing it as a somewhat "residual misconception" (Solow, 1994). He asserts (48):

¹⁴ Sen (1970, 23) criticised the model for the lack of an investment function and the consequent failure to assign a major role to entrepreneurial expectations about the future. Lucas (1988) points to the failure of the theory in accounting for the diversity of rates of growth of various countries. Many others (e.g. Shaw, 1992; Grossman and Helpman, 1991a, Ch. 2) criticise the theory for misinterpretation of capital and absence of an explicit treatment of technology.

¹⁵ See, for example, Dowrick (1992b).

[.].. to say that the rate of technological progress is exogenous is not to say that it is either constant, or utterly erratic, or always mysterious. One could expect the rate of technological progress to increase or decrease from time to time. Such an event has no explanation within the model, and may have no apparent explanation at all. Or else it might be entirely understandable in some reasonable but after-the-fact way, only not as a systematic part of the model itself.

It is apparent from the above that Solow was aware of the issue. In effect, as Grossman and Helpman (1991a, Ch. 2) pointed out, knowledge has served two distinct functions in Solow's contributions as well as in many of his successors. On the one hand, technical progress may help explain the ubiquitous "Solow Residual", on the other hand, "technical progress enables capital formation to continue even when the ratio of capital to primary resources begins to grow large" (pp. 23).

Solow (1957) shows how technical advances can be decomposed into contributions from factors and from the growth of total factor productivity. This conceptuality gave rise to a wave of empirical studies in growth accounting where technical advance and capital accumulation in different countries were compared¹⁶. These studies unanimously incorporated a "residual" to account for advances in knowledge¹⁷. This treatment is

¹⁶ See, for example, Denison (1967), Robinson (1971), and more recently, Denison (1985).

¹⁷ Early growth accounting exercises attributed more than half of growth unaccounted for to the "residual" [e.g., Denison (1967); Solow (1957)]. Some more recent attempts have revealed a substantially smaller size of residual by incorporating estimated changes in the quality of factor inputs [e.g., Jorgenson, *et al.* (1987)].

Denison (1985, 27-33) has provided reasonably convincing reasons for believing his residual is a fair approximation of improvements in knowledge for the period 1948-1973; but he identifies collapse in the rate of productivity increase after 1973 as being beyond the explanatory power of his analytic system.

indicative of technical progress being an important determinant in the growth of per-capita income despite the lack of explanation of the source of this change. Models subsequently formulated have focused on the provision of such an explanation.¹⁸

2.3 Growth with Technical Progress

2.3.1 Learning by Doing

Arrow (1962) constitutes one of the first attempts to view technical progress as an outgrowth of activities in the economic system¹⁹. By making learning a function of the total of past investments in a vintage model with fixed coefficients, Arrow shows the possibility of steady growth with no exogenous technical progress at a rate that is a multiple of the rate of growth of population, with the size of the multiplier depending on the precise form of learning parameter²⁰. This is rather similar to the rate of steady growth in an ordinary neo-classical model with increasing returns. But a crucial difference is that Arrow's model allows competitive equilibrium to exist whereas the ordinary neo-classical model with increasing returns does not (Shaw, 1992). That

¹⁸ Kaldor (1957; 1961) provided a framework for relating the genesis of technological progress to capital accumulation. There knowledge grows with learning which is related to investment. Kaldor and Mirrlees (1961) made learning a function of the proportionate rate of growth of investment. Shell (1973) attempted to link the generation of innovations to the institutional structure of the economy.

¹⁹ Levhari (1966a; 1966b) and Sheshinski (1967) generalised and extended Arrow's approach whilst retaining Arrow's general well-known conclusion that socially too little is invested and produced. This derives from the spillover effects of increased knowledge benefiting the economy in general over and above those benefits internal to the firm."

²⁰ See Sen (1970, 25).

knowledge accumulates as an externality and joins the production function as a factor which renders increasing returns inevitable. This follows because a doubling of all tangible factor inputs and productive processes should double output in an environment with a constant level of knowledge. When knowledge is permitted to vary as well in consequence of enlarging the capital input, increasing returns follow automatically²¹.

Shell (1967) proceeded with the issue along the same line but with a somewhat different approach to the process of generating knowledge. To Arrow, knowledge is generated by activities performed by the private sector. The creation of knowledge comes as a by-product of these activities not as the specific purpose for which these activities are undertaken. Shell, on the other hand, treated knowledge creation as an intentional activity and saw knowledge as the intended output of those who create it. In Shell's model, technical knowledge is produced by a public sector which is motivated not by profit but by a sense of curiosity²².

2.3.2 Endogenous Growth

Recent attempts led by Romer (1986), Lucas (1988) and Scott (1989) have tended to follow Arrow (1962) and emphasise that it is the private sector activities that contribute to technological advance rather than public sector funding for research²³. Endogenous

²¹ Arrow's formulation has captured Marshall's (1920) and Young's (1928) insight embedded in the conceptuality of externalities and increasing returns.

²² Grossman and Helpman (1991a, Ch. 2) offered a well-organised discussion of the model.

²³ Endogenous growth theory is attributed to Romer (1986), Lucas (1988), Scott (1989). The distinction from neoclassical growth theory is its treatment of growth as an endogenous outcome of an economic system, not the forces that impinge from outside. Theoretically, it does not invoke exogenous technical change to explain the growth performances across countries and regions. Empirical work, initiated by

growth exponents pointed to the failure of cross-country convergence and formulated models that hypothesise (Krugman, 1993, 31): (1) The presence of external economies which lead to disparity between social returns and private returns to investment (an observation asserted by Marshall); (2) capital in a broad interpretation takes up a much larger share of input than conventionally measured; and (3) technical advance is largely an endogenous outcome of market-oriented activities.

The first postulate reflects a change in methodology. Conventional growth models rely on the assumption of diminishing returns and constant returns to scale. The new approach, which has moved away from this assumption, concentrates directly on increasing returns as the main building block of the models. The reason that the growth theory of the 1960s and 1970s did not typically consider the case of increasing returns was essentially that such an assumption causes technical difficulties in modelling competitive equilibrium (Dowrick, 1992b, 5-6). The new theories solve these technical problems by borrowing techniques from the literature on industrial organisation. The incorporation of increasing returns into the analysis necessitates analysis of monopoly power and/or externalities- problems which the conventional analysis eschewed. This is particularly true of neo-Schumpeterian models²⁴. Early endogenous literature²⁵ did not pursue imperfect competition, but invoked increasing returns. In those models, technology, from the angle of the users, is still treated as a pure public good so that firms are treated as price takers and an equilibrium with many firms can take place. Judd's (1985) and Grossman and Helpman's (1989) models applied non-competitive equilibrium to growth. In these two neo-Schumpeterian models, discovery is made by

Barro (1990), responded to the approach by focusing on the private and public sector choices that cause the rate of growth of the residual to vary across countries. For a survey of the literature see Dowrick (1992b), Shaw (1992) and, among others, Romer (1994).

²⁴ See, for example, Judd (1985).

²⁵ See, for example, Romer (1986), Lucas (1988).

economic agents through activities motivated by monopoly profits. But each varies from the other in terms of focus of analysis. Judd invoked exogenous technical advance to keep his economy growing, whereas Grossman and Helpman investigated the connection between trade and growth. Jones and Manuelli (1990) showed, however, increasing returns are neither necessary nor sufficient conditions for endogenous growth. As Dowrick (1992b) highlighted, the technical condition they identified as the key to endogenous growth is that the marginal product paid to capital should stay above the discount rate for there to be sufficient incentive for investment²⁶.

The second proposition emphasises human capital²⁷ as the driving force of long-run growth. Lucas (1988) identified the accumulation of human capital as the engine of growth. Human capital is defined, in his first model, as the skill level of the individual which can contribute to productivity. Besides this "internal effect", human capital also generates external effects which spill over on the productivity of others leading to increasing social returns and an endogenous rate of growth which lies below the optimal rate of growth (Dowrick, 1992b, 9). This, as we will see later, is also posited in Romer (1990). Lucas's second model posits that human capital accumulates through learning by doing. It is participation in production that increases skill levels. This is similar to Arrow's (1962) model where skill level rises through conducting investment. A profound implication of Lucas learning by doing model, as Dowrick (1992b, 9) pointed

²⁶ Rebelo (1991) argues that constant returns to scale can render endogenous growth possible as long as the model has a "core" of capital goods whose production does not involve fixed factors.

²⁷ T. W. Schultz has made unique contribution to separating the effects of human capital (particularly, education) on the performance of economy. He examined intensively the role of human capital accumulation in the growth process (1963). His recent reflection on the subject is summarised in his Basil Blackwell book entitled *Restoring Economic Equilibrium: Human Capital in the Modern Economy* (1990). For a brief exposition of Schultz's (1990) contention and how it is related to others, see Chaudhri and Wilson (1994).

out, is that since some activities generate greater learning spillovers than others, direction of resources into high technology activities can increase overall growth²⁸.

To the extent that growth is seen to be determined by the behaviour of rational, optimising agents, the role of technology as the engine of growth is finally and formally established. The contributions of neo-classical theorists, such as Solow (1956), focused attention on the process of capital accumulation. Aggregate savings finance additions to the national capital stock. Due to the diminishing returns of capital, capital deepening will finally constrain the extent to which savings grow. The aggregate economy as a result enters a stationary state with an unchanged standard of living. However, long-run growth for the economy is not totally ruled out by neoclassicists. They viewed their out-of-steady-state dynamics as a story about the "medium run", when capital-labour ratios would be rising over time. During a transition period, autonomous investment in machinery and equipment would be a primary force behind rising income, and policies that altered the savings rate could be used to accelerate growth. But when the transitional phase would come to an end, economic growth could proceed unabated if technology were to expand over time²⁹. Solow showed that with the advances in technology, the marginal product of capital need not decline as capital per worker increased. Rather, improvements in labour productivity would augment the stock of "effective workers." Endogenous theorists concur with the decision of the early growth theorists to rely on advances in technology in sustaining growth. In their view, "a story of growth that neglects technological progress is both ahistorical and implausible" (Grossman and Helpman, 1994, 26). This is evident in some of endogenous models, such as Uzawa (1965), Lucas (1988) and Romer (1990), among a group of others.

²⁸ When trade is brought in, the message for policy becomes more complex. See Grossman and Helpman (1990a; 1990b; 1991a; Ch. 9) for an exploration of the complexities.

²⁹ See Grossman and Helpman (1994) for an elaboration of this point.

These models, as Stern (1991) highlighted, are characterised by identification of a sector specialising in the production of ideas. The research sector combines human capital with the existing stock of knowledge to produce new knowledge. New knowledge enhances productivity and is available to other sectors at virtually zero marginal cost (nonrivalness). Romer (1990), for example, highlighted the importance of nonrivalry in technology as the primary source of growth. Non-rivalry is one of the defining characteristics of a pure public good in that use by one person in no way detracts from use by others. Romer makes a distinction between human capital and technology. Technology, unlike human capital, is the cumulative effect of education and training which is inextricably embodied in the individual, and is a non-rival input. "It is this nonrivalry of technology, and the corresponding increasing returns to scale in the sector which uses the knowledge, which makes long-run growth possible" (Dowrick, 1992b, 7). According to Romer, knowledge enters into production in two distinct ways. A new design allows the production of a new intermediate input. But as well, a new design increases the total stock of knowledge and accordingly increases the productivity of human capital used in the research sector. The owner has certain property rights over its use in the production of a producer durable but not over its use in research. According to Dowrick (1992b), it is in this second role of increasing the stock of knowledge that technology is not only non-rival but also non-excludable. These two features of technology are also embodied in Arrow (1962), but there the production of a non-rival, non-excludable good is postulated to be a by-product of the production of a conventional good. Lucas (1988) has a similar emphasis. The policy direction pointed by these models could be summarised in Shaw's (1992, 617) observation:

[A]ll these models conclude that research produced by the research sector will be suboptimal because of those benefits arising which are freely available to all. This would suggest a possible role for government in subsidising research. The difficulty here would lie in the adequate identification of the relevant R &

D sectors. A second best option might lie in the subsidisation of the acquisition of human capital generally.

Brief mention may be made, in passing, of the contributions of Scott (1989) and Chaudhri and Wilson (1994). Scott, after a careful examination of growth theory and evidence, highlighted the possibility that new ideas and techniques are embodied in machines and equipment. In Scott's model, it is undertaking investment itself that creates and reveals fresh opportunities³⁰. This feature sharply distincts Scott's approach from many models of endogenous growth (e.g. Lucas, 1988; Barro, 1990). In the latter, investment is made which increases the capital stock, which in turn contributes to output. Chaudhri and Wilson (1994), however, innovated a novel concept of a Metaproduction function and applied it to empirical explorations. Endogenous growth can be reconciled with their framework without imposing the assumption of constant or increasing returns to scale in aggregate, or constant returns to broadly defined capital. This is a major difference from the neo-classical models of endogenous growth.

2.4 Trade and Economic Growth

Recent advances in theory have seen an increased emphasis on trade. This features, on the trade side, an effort to analyse international trade with imperfect competition³¹

³⁰ See Scott (1993) for an exposition of the argument.

³¹ This approach is called "new trade theory". Helpman and Krugman (1985) and Grossman (1992) are good examples. For a survey of various leading models, see Kierzkowski (1984), Krugman (1987; 1990), and more recently, Alasdair Smith (1994). For implications of the theory for policy see Bliss (1987).

and, an attempt, on the side of growth, to model growth enhanced by trade-induced industrial innovations³².

For almost all the time since David Ricardo's publication of *The Principles of Political Economy and Taxation* in 1817, the notion of comparative advantage has dominated economists' thinking about international trade. Theorists resort to the theory to analyse the gains from trade and, to explain trade flows between nations. Policy makers refer to the concept for the underpinnings of much of the argument on the role of trade in development strategies. As Stern (1989) has emphasised, the assertion of the theory that countries trade to take advantage of their differences (i.e., tastes and technology for Ricardo and, factor endowments in H-O model), has, and will, continue to be one of the most important and enduring insights of economics.

The new approach has concerned the increasing recognition of the role of intra-industry trade, increasing returns to scale and monopolistic competition³³. Early models in this terrain, such as Helpman and Krugman (1985), invoked economies of scale at the firm level to account for national specialisation in individual products and hence the observed large volumes of intra-industry trade. More recent models have stressed increasing returns in the production of intermediate goods, in generating externalities at the level of final goods. If intermediate goods are nontradable, the de facto external economy effects are country-specific (Helpman and Krugman, 1985, Ch. 11). Krugman

³² See, for example, Grossman and Helpman (1991a; 1991b).

³³ The new trade theory and the endogenous growth models are similar in terms of methodologies. Both approaches focus on increasing returns and externalities, by applying similar tools from industrial organisation theory. New trade theory is, in essence, a static theory of trade in differentiated products, whereas the endogenous approach of growth deals with the dynamic evolution of comparative advantage and the consequences of international trade in a world of global technical competition (see Grossman and Helpman, 1991a).

(1991) showed that non-prohibitive transport costs can yield external economies. This is a reflection of the geographical concentration of manufacturing as observed in real life. Here Hirschman's (1958) linkages have a role to play. Firms locate close to the large market provided by other firm's workers (a backward linkage), and workers live close to the supply of goods provided by other firms (a forward linkage). Thus, Krugman (1993, 24) contends:

[.].in models of economic geography (Krugman, 1991), it is quite natural to try to model concentrations of population by assuming that factor mobility interacts with economies of scale at the plant level to generate external economies.

Trade has been a central issue in economics, and has been extensively explored in relation to growth and economic development³⁴ in the economic literature. In static models³⁵, the effects of trade on growth are perceived to be "as involving the exploitation of resources lacking in that place and at that time any alternative uses of significant economic value" (Caves, 1965, 96). Trade can also enhance growth by putting into more productive employment resources which otherwise would have found only less productive employment (Bliss, 1989, 1230). The common feature of these models is that they depict the growth essentially as a gain through opening up trade improving the allocation of factors across sectors and thereby inducing a one-time increase in the value of domestic production³⁶, not as the result of technical progress.

³⁴ See, for example, Johnson (1962), Bhagwati (1978), Krueger (1978), among many books; Corden (1971) on the dynamic supply-side effect of trade on growth; Findlay's elaboration of growth-development-in-trade models (1984) are examples of papers dealing with the issue.

³⁵ For example, Caves (1965).

³⁶ Johnson (1955) concerned with growth in the sense of "expansion", i.e., a once-and-for-all improvement in production possibilities or factor availability.

Thus "liberalisation does not reduce the volume of inputs needed to produce a given bundle of outputs" (Tybout, 1992, 189). It is in this sense, Bliss (1989, 1229) concludes, they are not suitable for answering questions to do with long-run and nonconvergent rates of growth.

Endogenous growth addresses rigorously many issues associated with international trade. In models that explicitly link trade, innovation, and growth, international trade not only results in a once-for-all change in resource allocation, as depicted in the static models, but transforms existing production functions and increases productivity over time. Here long-run growth is seen to be the outcome of technical advances intentionally made by economic agents in response to market incentives which invariably reflect aspects of the international trade environment. These theoretical propositions are reminiscent of some of the early contributions in trade and development literature, such as Corden (1971) and Hirschman (1958). The growth performance, in the new approach, is linked with the trade performance of the nations. Thus the larger the volume of trade, the greater should be the potential for economic development. These models have echoed the message that reflects the main features of our observation concerning the international trade environment. According to Grossman and Helpman (1990a, 86), at least three features of the global economy are worth noting for understanding growth performance:

[F]irst, familiar notations of comparative advantage may determine to what extent particular countries are led to specialise in the creation of knowledge and in the production of goods that make intensive use of human capital and new technologies. Second, the large scale of the world economy provides great opportunities for the exploitation of research successes and so may enhance the incentives that firms have to invest in the generation of new technologies. Third, in a world of rapid and cheap communication, ideas and information spread quickly across international borders. Countries stand to benefit from the

spillovers generated by investments in knowledge in trade partner countries, but also may lose from the lack of ability to appropriate all of the benefits from their own investments...

The mechanism at work is that the trade environment bears upon the incentives that firms in specific countries have to invest in the creation of knowledge³⁷.

Technical progress in the form of cost reduction, product innovation and quality improvements has been brought into the analysis of long-run innovation and growth. In the work of Romer (1990), R & D, which provides the design for a new, differentiated product, is treated as an ordinary economic activity. An entrepreneur must commit resources to R & D. In other contributions (e.g., Lucas, 1988, Grossman and Helpman, 1990a), learning-by-doing externalities at the sector level are invoked for the creation of a link between trade policy and sectoral growth patterns. Any shift induced by policy in the composition of output change patterns of sectoral learning rates and productivity growth; in turn these changes determine trade patterns. A different mechanism is pursued in Grossman and Helpman (1991b). In that model, the process of quality upgrading is treated as a "set of concurrent, industry-specific patent races", each aimed at developing the next generation of continuum of goods. Each product follows a stochastic progression up a quality ladder. Progress is not uniform across sectors, so an equilibrium distribution of qualities evolves over time. The constant growth rate reflects profit incentives in the R & D sector. Trade has the ability to promote long-run equilibrium. The prevailing trade pattern is notable for its property of containing both intra-industry trade in vertically differentiated products and inter-industry trade in technically progressive, homogenous goods. Therefore, it is apparent in the above presentation that the common features of the trade-innovation-growth models, as

³⁷ This feature is explicitly captured by Grossman and Helpman in the exploration of trade-growth hypothesis. See, for example, Grossman and Helpman (1991a).

Grossman and Helpman summarised (1990a), are a rigorous accounting of the resources employed in generating new knowledge and an explicit treatment of the profit motive that drives private investment in R & D.

2.5 Empirical Evidence

Observed diversity and sustainability of the rates of income growth across countries and regions over the past decades have posed a challenge³⁸ to growth theorists, and constitute a major source of motivation for theoretical innovation³⁹ and empirical studies.

Convergence or Divergence. The recent empirical work that has sprung from growth theory has been facilitated by the valuable publication of data sets by Maddison (1982) and, Heston and Summers (1991). To a great extent, it hinges on international cross-section regressions with the average growth rates of different countries as the dependent variable and various politico-economic factors as the explanatories that might capture the growth rate. In his analysis of the Maddison data, Baumol (1986) suggested an apparent convergence during this century to a common path of the income levels of the richer countries. But Abramovitz (1986) rejected this analysis on grounds of the divergence tendency he observed between 1870 and 1950 using the same data set. Delong (1988) rejected the result by resorting to a sample selection bias in Maddison's data set to account for the convergence effect, and claims that examination of the

³⁸ It has questioned the neo-classicists on the convergence hypotheses.

³⁹ The divergence observed of rates of growth of per capita income across countries has motivated theorists to look for alternative theoretical explanations. Indeed, pioneering work in this field (Romer, 1986; Lucas, 1988) has resulted from this.

countries with the highest income levels at the beginning of the century (as opposed to the sample period currently used in Maddison data) shows apparent divergence. A recent study by Dowrick (1992a) finds that income differences between the 113 countries sampled from Huston and Summers' data have diverged rather than converged, despite evidence of productivity catch up driven by technological spillover from more advanced to less advanced countries. Dowrick attributes this to the effects of employment deepening and capital deepening in the rich countries. The former is ascribed to growing worker to population ratios in rich countries, while the latter is due to higher investment rates.

Another strand of literature has endeavoured to test the endogenous growth hypothesis⁴⁰. Barro and Sala-i-Martin (1992) examined the evidence for endogenous growth indirectly by testing for convergence in income levels across regions and countries. Convergence was detected but the rate at which convergence evolved was much slower than that typically predicted by the neo-classical model. They concluded that the evidence is consistent with constant returns to capital and technical diffusion. This conclusion is rather different from those of Mankiw *et al.* (1992) which indicate that differences in human capital may account for slow convergence and who find the endogenous hypothesis unproved. Other studies by Romer (1989) and Dowrick (1992a) emphasised that the phenomenon of convergence does not apply to the underdeveloped countries though it occurs among the more developed economies. Moreover the findings in Dowrick (1992a) do signal the presence of increasing returns to scale, thus confirming the hypothesis of endogenous growth.

Human Capital The role of human capital in the growth process has been subjected to close scrutiny. Barro (1991) presents evidence from a very broad cross-section of countries which appears to support the hypothesis that human capital

⁴⁰ Barro (1990) has pioneered the initiative.

formation, measured by years of schooling, is an important contributor to growth. But there is as yet little substantial evidence to support the hypotheses of Lucas and others that human capital formation and learning by doing have substantial externality effects. Adams (1990), by examining US data on academic scientific output and development capacity, finds that growth in the stock of fundamental knowledge contributes strongly to productivity growth, but the lags range from ten years for computer science and engineering to a typical twenty year lag between discoveries and peak production effect within a particular industry, and a lag of up to thirty years for inter-industry spillovers.

Trade as an engine of growth. Empirically, the nature of the relationship between trade and income growth has generated a voluminous literature⁴¹. While most of the studies attempt to analyse the impact of export expansion on overall economic growth, a few are devoted to investigating the underlying causal relationship between these two variables. The methodologies are varied in terms of analytical emphasis, ranging from an explicit analysis of the effects of trade on growth of productivity to an implicit examination of the links of the variables through tracing sources of growth. Studies that directly link trade policy regimes and productivity have highlighted economies of scale, allocation of resources, easing of foreign exchange constraints, greater incentives for technical innovations, human capital formation and more efficient management techniques due to foreign competition. The results from all the studies are mixed and to some extent conflicting. In directly analysing the effect of trade regimes on the growth of productivity in some individual countries, Krueger (1978) and Bhagwati (1978) both have identified a positive association between "openness" and growth rates. This general finding is consistent with Syrquin and Chenery's (1989) result that in a sample of over one hundred countries, those with an outward orientation achieved an average output growth rate of 5.22 percent per annum from 1952 to 1983, and average growth in total

⁴¹ See Harvrylyshyn (1990), Tybout (1992), and also Chenery *et al.* (1986); Pack (1988) for a survey of the issue.

factor productivity of 2.2 percent per annum, while those with an inward orientation grew at an average rate of 4.28 percent per annum during the same period and experienced average productivity growth of only 1.6 percent per year. Similar evidence has been revealed by cross-country studies⁴². Chenery *et al.* (1986), for example, find that economies which have pursued export-led growth- as opposed to a strategy of import substitution- have grown faster, industrialised sooner, have higher rates of total factor productivity growth. Ram (1987), in providing estimates of the Feder (1983) model of export-growth linkages for a large number of developing countries on the basis of annual time-series data for each, finds huge intercountry diversity in the parameter estimates, which confirms a predominantly positive role of exports in growth⁴³. But Pack (1988) and Havrlyshyn (1990), after reviewing studies based on within-country temporal correlations, conclude that there is no strong evidence linking productivity and openness. Nonetheless some recent studies do find a positive association between export growth and productivity⁴⁴. Sengupta (1992), in testing some of the new theories directly against data for Korea, has revealed evidence of a positive association between the rate of growth of exports and output growth. Chaudhri and Wilson (1994) detected a similar result.

Studies that investigate the causal relationship between export growth and economic growth are worth mentioning here. Chow (1987), using the Sims (1972) technique, tests causality between the growth of exports of manufactured goods and development of manufacturing industries in selected developing countries during the 1960's and 1970's.

⁴² Balassa (1978), Feder (1983), Ram (1985; 1987), Tyler (1981), among many others, have shown that developing countries with favourable export growth have tended to experience higher rates of growth of national income.

⁴³ Edwards (1992) has detected the same evidence.

⁴⁴ See for example Krueger and Tuncer (1982), Nishimizu and Robinson (1984), and also Nishimizu and Page (1991).

The study indicates a strong causal relationship between export growth and industrial development and in almost all the cases the causal relationship between the growth of exports of manufactured goods and the development of manufacturing industries is bi-directional in nature⁴⁵. Jung and Marshall (1985), by contrast, using the Granger (1969) method, find that export growth does not "Granger-cause" GDP growth. Applying the same technique to examine the causal relationship between the size of China's export sector and her national income per capita for 1952-1985, Kwan and Cotsomitis (1991) conclude that there is a bi-directional causality between these two variables. However, for the sub-period 1952-78, very limited support is found for a causal link in either direction. Thus they claim the difference in results between these two sample periods indicates a change in causal relation after 1978. But Bahmani-Oskooee and others (1991), using Akaike's optimal lag criterion in a Granger causality test, have re-examined twenty developing countries with respect to the causal relationship between export growth and economic growth, and have found some support in favour of a causality running from exports to growth though the evidence is inconclusive in evaluating competing hypotheses.

2.6 Relevance for LDCs Policy

In the light of the findings of the extensive trade and growth literature, implications for policy are varied and profound from the perspectives of developing countries. The arguments in the strand of literature on trade orientation and economic growth, in

⁴⁵ Septon (1989) argues that due to the nonrigorous and inadequate treatment of econometrics employed by Chow (1987), his study does not provide strong evidence on the relationship between export growth and industrial output.

general, are in favour of an export-oriented regime⁴⁶. This suggests a package of policies oriented towards the target of implementing export-push strategies. However, in terms of the theoretical contention of new trade theories, a special role for government is to identify some "strategic" sectors (picking winners) which have the best potential to generate positive spillovers and, hence, externalities, rather than merely implementing policy arrangements which target enterprises across the board⁴⁷. To the extent that endogenous growth emphasises formation of human capital and generation of knowledge, government's role in directly conducting or encouraging activities that produce knowledge and /or facilitate human capital formation is highlighted.

Trade, trade policy and international integration are extensively explored in the endogenous framework⁴⁸. Rivera-Batiz and Romer (1991) have cited several reasons why economic integration with the rest of the world enhances a nation's economic growth. He argues that residents of a country which is integrated into world markets are likely to enjoy access to a larger technical knowledge base than those living in relative isolation. Trade itself may promote the process of technological dissemination, if foreign exporters suggest ways that their wares can be used more productively or foreign importers indicate how local products can be made more attractive to consumers in their country. On the other hand, exposure to international competition may encourage new industrial research. While a firm that develops a product for a protected domestic market need only make use of technologies that are new to the local economy,

⁴⁶ See, for example, Krueger (1978); Bhagwati (1978), among many others.

⁴⁷ This is the essence of so-called "strategic trade policy" argument embedded in the new trade hypotheses. This argument contends that in a world characterise by increasing returns and imperfect competition, lucky firms in some sectors may be able to reap returns higher than the opportunity costs of the resources they employ. See Krugman (1987) for a detailed treatment of the topic.

⁴⁸ See, for example, Grossman and Helpman (1990a; 1990b; 1991a; 1991b); Lucas (1988); Rivera-Batiz and Romer (1991) and Shaw (1992).

one that hopes to compete in the international market-place will be forced to generate ideas that are truly innovative on a global scale. Third, international integration, by expanding the size of the potential customer base, may bolster up industrial research. But Grossman and Helpman (1991a) have warned about a possible counterveiling force that may be at work here. More open trade will increase the profitability of R & D in a country or region only if its firms can hold their own in the rivalry with foreign firms.

Romer's (1990) analysis of the spillover effects of research activities and the monopolistic nature of firms using research implies that too little human capital is devoted to research. His analysis leads to a clear call for the subsidisation of research, especially for research of a fundamental nature.

Expansion of international trade, as demonstrated by Grossman and Helpman and Romer, in general, promotes growth. When a country is opened up to trade, her residents will enjoy access to a larger technical knowledge base than in isolation. Trade itself may influence knowledge dissemination. Trade introduces forces that improve the efficiency of global research. Exposed to international competition in integrated markets, innovators are motivated to pursue distinctive ideas. In contrast, in the absence of international competition, they have little incentive to avoid duplication of effort (Grossman and Helpman, 1991a, Ch.13). However, there are several cases in which closing off trade might actually increase a country's long-run growth rate⁴⁹ (Grossman and Helpman, 1991a, Ch. 9). For example, a country that is well endowed with natural resources and unskilled labour may be induced by trade to specialise in activities that make use of those resources. This will divert resources away from human capital-intensive activities like R & D. Nevertheless, it does not mean to favour a non-open trade regime. The justification for the argument is captured in the following observation:

⁴⁹ South Africa and Zimbabwe are interesting cases in which closing off trade following the imposition of sanctions actually increased their long-run growth rates.

[.]. These arguments should not be taken to imply that illiberal trade policies would generally be beneficial to a country that sees slower growth as a result of openness to trade. A country that lacks the size and technological experience to support a world class R & D effort, or one that has the endowments appropriate to activities like agriculture and mining, typically will gain from specialising in the production of goods that do not require the latest technologies. A country like Saudi Arabia- to take an extreme example- must surely be better off trading its oil for manufactured goods than it would if it tried to develop and produce the latest high-technology goods itself. Although its GDP may grow more slowly in the long run when it specialises in drilling oil, the present discounted value of its consumption stream will almost certainly be higher. The point worth emphasising here is that output growth rates do not measure economic welfare (Grossman and Helpman, 1994, 41).

In this case, trade affords households in each country the opportunity to consume innovative goods that are developed abroad. Trade also provides the usual static efficiency gains, as countries specialise according to comparative advantage.

2.7 Conclusion

This chapter, whilst attempting a systematic analysis of the voluminous growth literature, has concentrated on a detailed analysis of two classes of theoretical models, namely endogenous growth and new trade models. These models are similar methodologically but are different in terms of emphasis. They give explicit treatment to increasing returns and externalities by grappling directly with imperfect competition. With respect to theoretical emphasis, new trade theory, in essence, is a static theory of

trade in differentiated products, whereas the endogenous approach to growth focuses on the dynamic evolution of comparative advantage and the consequences of international trade in a world of global technical contest (Grossman and Helpman, 1991a).

As a distinct feature, endogenous growth theory treats long-term economic growth as an endogenous outcome of an economic system, rather than the forces that impinge from outside. Thus growth occurs in the absence of exogenous increases in productivity such as those attributed to technical advances in neoclassical growth models⁵⁰. The new approach, by making explicit the endogeneity of the knowledge generation process, has dealt directly with the issue of linking various government policies and growth performance. If knowledge capital is critical to growth as endogenous theorists argue, government may influence the growth process through shifting resources into knowledge-creating activities such as R & D, skill formation and international trade.

Apart from supporting R & D and skill formation, expanding international trade is an important area where government has a role to play. The more open an economy, the greater will be the spillovers that the economy can gain from interactions with its foreign counterparts. Thus government action, as suggested by endogenous theorists, is to remove impediments to international trade across sectors. This includes facilitating marketing abroad for exports, permitting imports and encouraging foreign investment. These policies will help the process of generation of externalities, increasing returns and learning by doing.

The new theory has an immediate implication that developing economies should adopt outward looking trade policy. Since knowledge capital is identified as the driving force of long-term growth, developing countries potentially stand to benefit from enlarged international contacts through drawing upon the large knowledge stock already

⁵⁰ See, for example, Romer (1986), Rebelo (1991).

accumulated in the developed world. An open trade regime, therefore, is preferred on grounds not only of efficiency, as suggested by the conventional trade theory, but also of externalities and increasing returns.

How well does the theory fit the experience of China? To what extent and in what ways has trade served as an "engine of growth"? And what economic policies are especially conducive to sustained, rapid growth in China? These questions, among many others, are to be addressed in the next four chapters.

CHAPTER 3

THE CHINESE ECONOMY 1973-92

3.1 Introduction

This chapter provides a close examination of the growth of, and structural changes in, China's economy from the early 1970s to the early 1990s. We have tried to present a consistent quantitative outline of the economic growth and the structural shifts in China by organising the basic data on population, total product and some of its components. The analysis and examination of this data will enable us to put into perspective the main theme of the study, the links between trade and economic growth, which is to be explored in detail at a later stage. We use the pre-reform period (1973-78)¹ as a benchmark and place special emphasis on the post-reform period (1978-92), fully spelling out the growth performance of the fourteen years from 1978 to 1992. To add regional dimensions to the exploration, two provinces: Hubei and Zhejiang and one municipality-Shanghai² are included, at times, for analysis. Choice of the three subeconomies is dictated mainly by three factors, namely, (1) to incorporate subeconomies with different structures at the start of the time span under inquiry. It is for this reason that we have included a city economy (i.e., Shanghai) along with the other two provincial economies; (2) to represent as best as we can geographical

¹ As is apparent from the text, the coverage of the pre-reform period at times diverges from this definition due to data availability.

² According to the 7th Five-year Plan's classification, China is subdivided into three regions, namely, East Coastal Region, Central Region and West Region. East Coastal Region consists of three municipalities-Beijing, Tianjin and Shanghai, one autonomous region- Guangxi and, seven provinces-Hebei, Liaoning, Shangdong, Jiangsu, Zhejiang, Fujian and Guangdong. Central Region includes one autonomous region-Inner Mongolia and eight provinces-Anhui, Jiangxi, Jilin, Henan, Heilongjiang, Hunan, Hubei, and Shanxi. West Region is inclusive of three autonomous regions and six provinces. They are Sichuan, Guizhou, Yunnan, Tibet, Shangxi, Qinghai, Ningxia and Xinjiang.

groupings within China, which justifies our selection of two coastal subeconomies and one from Central China and, (3) to reflect the availability of the required data. Indeed we would have included at least one subeconomy from West China if the required data had been readily available. Therefore it is the paucity of data that has prevented us from having a wider representation from the geographical groupings. So far as the basic data needed for the study is concerned, there are, in general, several sources available, and a careful look at some of them reveals several (and sometimes big) discrepancies between the various sources. This has given rise to the issue of data reliability and consistency. At times efforts are exerted to demonstrate the problem of frailty of the statistical data. For statistical consistency, we have based our analysis on Chinese sources whenever and wherever it was possible. In presenting facts concerning the trends and structural characteristics, we have provided various analytical comments, suggested by the data and in particular emphasised the implications of the structural shifts associated with rapid growth.

This chapter is subdivided into seven sections. Section 3.2 discusses the movement of population and labour force. We first deal with the changes in these aggregates, and then turn to the issue of urbanisation. Section 3.3 is concerned with total product. We explore, in turn, the growth of GNP, GNP per capita over the period, for both the national and the three regional economies. Section 3.4 is devoted to the exploration of the structural shifts in the process of economic growth. Under inquiry are the production structure, employment structure, investment structure, and consumption structure. In this section, there is discussion of township enterprises, noting a few aspects in the process of their development and the role of these enterprises in shaping structural change. Section (3.5) deals with external trade. In presenting facts concerning the post-reform performance in terms of changes in both the volume and structures, we will mainly explore some of the most crucial factors underlying those changes. The next section (3.6) looks critically at the performance of the state-owned sector over the post-reform period, concentrating on a few major aspects of this sector. Section 3.7 provides

a summary of the discussion of the whole chapter and draws some tentative conclusions regarding the relations between changes in policies and economic growth in the light of existing theories.

3.2 Population and Labour Force

3.2.1 Population Growth

In 1990, the fourth population census of China revealed the following facts: Of the total population, there are approximately 468.1 million people (41.4 percent of the total population-1130.5 million) living in the east coastal region, some 404.2 million (35.8 percent) in the central region and 258.3 million (22.9 percent) living in the west. In terms of population, the largest province is Sichuan, which contains approximately 107.2 million, or 9.5 percent of the national population; the largest city is Shanghai, whose population is 13.3 million, or 1.2 percent of the country's total. There are 17 cities which have a population of over 2 million people. The regional distribution of the labour force exhibits a similar pattern. In 1992, the labour force of the east was approximately 252.2 million (42.4 percent of the national total), of the central approximately 202 million (around 34 percent) and the west 140.1 million (some 23.6 percent)³.

The above concentration of population and labour force only lightly reflects the regional dispersion of production activities in the country. A simple computation using the *Statistical Year-Book of China 1993* (pp. 37 and 61) shows that, in 1992, the east coastal region produced 56.3 per cent of the GNP, 62.3 per cent of the gross output of agriculture and industry, and 65.7 per cent of the total industrial output of the country. The central region accounted for 27.8 per cent, 25.1 per cent and 23.3 per cent of the

³ State Statistics Bureau (1993a, 102).

total GNP, gross agricultural and industrial output and the total industrial value respectively, whereas the West only produced 15.9 per cent of the total GNP, 12.6 per cent of the gross agricultural and industrial output and 11 per cent of the total industrial output⁴. This indicates that a great gap exists between the regions in terms of labour productivity and the level of development.

Table 3.1 Population Growth in China (1973-92)

Please see print copy for image

Source:- Computed from:
State Statistics Bureau (1993a, 1993b)
Note:- *Average annual growth rates are computed, throughout this thesis, using the semi-log method, except otherwise specifies.

⁴ All are measured in terms of value.

Now we turn to the discussion of the growth of population and the labour force⁵. Table 3.1 indicates the changes in the patterns of population growth in the transition from traditional to modern economic life. In interpreting Table 3.1, it should be noted that the official estimates of population summarised in the table include armed forces on the military bases.

The figures for the 1982-89 period are deduced according to the censuses of 1982 and 1989. Early figures originated from the annual reports of the Public Security Bureau of China. The figures for 1991-92 were computed on the basis of population sampling. These diversified sources of original statistics allied with the problems of inaccuracy observed in the family registration system, particularly in the post-reform period, suggest that care should be taken in interpreting the results based on these sources.

Several findings should be mentioned explicitly. First, the steady and substantial reduction in the growth rate, or the rate of natural increase, was largely a result of marked reductions in the birth rate. Over the two-decade period, the crude death rate remained almost unchanged, having drifted down slightly from 7 per thousand to 6.6. The Birth rate's decline from 27.9 per thousand to 18.2 in 1992 amounted to a third. The rate of natural increase declined from an initial 20.9 percent to 11.6 percent in 1992, resulting in a reduction of a half. But it is the initially low level of the crude death rates that made it harder to achieve a major reduction in the rate of natural increase. In other words, success in reducing the death rate to lower absolute levels before 1973 meant that nearly all of the marked slow-down in population growth over the two-decade period was due to declines in the birth rate.

Second, the decline in the crude birth rate over the whole span is, to a large extent, policy-driven. As shown in Table 3.1, the birth rate in the whole span exhibited a

⁵ As the purpose of this is primarily not concerned with demographic issues, we thus only outline a few aspects which are thought to be essential in understanding the economic trends of Chinese economy.

vertical "s" pattern. That is, it declined from the initial 27.9 per thousand population to 17.8 in 1979, and started climbing up from 1980, reaching 23 per thousand in 1987, and drifted down thereafter to 18.2 at the end of the overall period. This specific movement of the birth rate reflects the strength and toughness of China's legal arrangements and family-planning policy. Through the 1970s the government successfully campaigned for higher ages at marriage. Rising marriage ages significantly affected population growth by spreading out births. But this policy was reversed in the revised Marriage Law promulgated in 1980. Thereafter the mean age at first marriage for women decreased alongside a reduction in the first birth interval; this trend was observed in both urban and rural areas.

A second factor which contributed much to the changes in the crude birth rates and hence the growth of population during the 1980s was China's family planning policy. China officially adopted a one-child policy in 1979 as a result of fears that excess population would undermine its modernisation efforts. This policy had been rigorously pursued until early 1984 when it was suddenly relaxed with the promulgation of Document Number 7⁶. The main justification of this document rested on the changing reality of rural life. The one-child policy, and China's entire family-planning strategy, was premised on the assumption that birth planning would be enforced by subjecting population growth to the same planning mechanism as applied to material production. However, economic reforms which unfolded in the late 1970s were quickly eroding the economic and political structures associated with the centralised planning regime. These changes were most evident in the rural areas in the early 1980s, where the state's anti-natal goals were increasingly in conflict with the changing social and economic environment following decollectivisation and decommunisation⁷. As a consequence of

⁶ Central Document 7 (1984) is entitled "Guanyu jihua shengyu gongzuo qingkuangde huibao" (Report on the situation in birth planning work). The text can be located in *Jihua shengyu zhongyao wenjian* (Selected important documents on birth planning), 15-25.

⁷ On the impacts of economic reforms on birth control in China, see White (1991, 252-269).

Central Document 7, the one-child policy was progressively relaxed after 1984 in the countryside although it continued to be strictly implemented in urban areas throughout the 1980s. Entering the 1990s the Chinese government has exerted a strong hand in enforcing a one-child limit for most urban couples and a two-child policy for rural couples. But the difficulty has increased compared with the 1980s due to the advancement of market-oriented reforms. It is by now clear that the specific movement of the birth rate has reflected the strength and toughness of China's family-planning policy. The decline in the crude birth rate during the 1970s was largely a consequence of the government's requirement for higher ages at marriage and a longer first birth interval, whilst the upward trend which originated in the early 1980s was accounted for in part by policy changes, and in part by a change in the sex and age composition of the population⁸. The impact of this factor upon the birth rate could have surpassed that of the policy.

A long-term downward trend in the birth rate, when voluntary and occurring under conditions of an economy and society with consumer sovereignty, is a step of significance in modern growth. Aside from its impacts on capital formation and the allocation of material product, this trend is also significant as an indication of changes in attitude of the population towards future prospects as they bear upon the economic and social fortunes of both the parental generation and that of their children. To what extent the decline in the birth rate in China can be taken as an indication of changes in the above sense is a question we are not attempting to answer. But we are fully aware of the fact that the reduction in the rate of birth as observed in China over the sample period was far from a voluntary outcome and preceded the rapid economic growth of recent years.

⁸ See State Statistics Bureau (1993b, 291-293).

3.2.2 Urbanisation

The urbanisation of China's population proceeded rapidly with the development of other economic and social aspects in the post-reform period. Before analysing the major forces underlying the process of urbanisation, let's take a look at the trends first. The overall rate of urbanisation, given by the ratio of urban population to the total increased markedly over the period of the 1970s and through the early 1990s. Table 3.2 summarises the results, for China and the three subeconomies we have selected, of the

**Table 3.2 Growth of Urban Population:
China and Selected Regions (selected years)**

Please see print copy for image

Source:- Computed from:
State Statistics Bureau (1992)
State Statistics Bureau (1993b)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1994)
Shanghai Statistics Bureau (1992)
SYECEB (1993)

Note:- I: ratio of urban population to the total
II. ratio of non-agricultural population to the total
@ 1970; * 1980; n.a. not available

pattern of change in the urbanisation movement. For the three regions, we have reported results on two ratios, i.e., the ratio of urban population to the total and the ratio of non-

agricultural population to the total, while including only one ratio for China⁹. As Table 3.2 shows, the average ratio of urban population to the total, on the average, increased from 17.4 to 26.4 per cent by 1991; a similar trend was observed in the three regions (See the table).

The rapid urbanisation over the post-reform period was essentially fuelled both by the continuing restructuring of sectors led by township enterprises (TWEs) in the rural areas and the growing demand for labour derived from the rapid economic growth in the coastal regions. TWEs trace their origins back to the early 1950s¹⁰, and had barely experienced significant growth over the approximately two decades before the economic reforms began in 1979. The essential force that had held back TWEs development, as we might expect from a command economy, was restrictions imposed by the state¹¹.

⁹ The official Chinese statistics on urbanisation are problematic and can only be used with careful and time-consuming decomposition of the components of urban population growth (see Banister, 1991, 246). This is particularly true, in our case, with the definition, for the regions, of the two urbanisation indicators: the ratio of urban population to the total and the ratio of non-agricultural population (see Table 3.2). Two issues are essentially involved here. The first is how to define China's rural population. This issue has been adequately dealt with and hence is not to be discussed here (See Linge and Forbes, 1990, 193-198; and Martin, M. F., 1992 for a brief review of the issue). Another issue is which ratio is to be used as a representative measure of the urbanisation in the three included regions. As Table 3.2 shows, the urban to total population ratios, for the two provinces, which approximated the ratios of non-agricultural population to the total in 1979, increased rapidly after 1985, to as high as somewhere between 60 and 78 per cent by 1992. These figures are apparently too high to be a reliable indication. The overestimation has essentially been attributable to redefinition of boundaries of old urban towns (*zhen*) and cities and the creation of numerous new urban towns and cities as of 1984. Boundaries of old urban towns and cities have been in general successfully widened to include suburbs, nearby villages, rural areas and regions under the municipal control. In addition new urban centres are also seriously overbounded. For the above-stated reason, non-agricultural population is a more representative indication of urban population.

¹⁰ Township enterprises were called commune-brigade enterprises until the promulgation of Central Document 4 (1984).

¹¹ An excellent account of the evolution of TWEs is found in MCTEEB (1991, Ch. 2 & 3); Zhang Yi (1990a, 161-168).

Beginning from the late 1970s and through the early 1980s, the government, in an effort to encourage TWEs development, released the policy constraints that were formerly put on TWEs and directed attention to issues such as the industrial restructuring of the existing TWEs, and the improvements in TWEs management¹². But substantial efforts going into TWEs were not seen until after the promulgation of the celebrated Central Document Number 4¹³, which is seen as the single most important policy provision that was offered by the state in the 1980s. It defined the nature, outlined the scope, and identified the importance of TWEs development, and hence set the tone for the subsequent rapid development.

In addition to the incentives established by the policy change, there were at least two factors that accounted for the rise of TWEs in the mid-1980s. The first reason that encouraged the development of TWEs was from the supply-side. On the one hand as the changes in the rural institutions continued in the early 1980s, a huge number of rural labourers became surplus to farming needs, and thus provided the potential labour force for township enterprises. The substantial growth in both agricultural output and rural household income, on the other hand, supplied the necessary material input and investment funds¹⁴. Another factor is that the growing market capacity and rapid development of industries, particularly light and textile industries, throughout the 1980s and the early 1990s, generated demand for both production materials and consumption goods. Thus in this sense the rise of TWEs in the late 1980s and the early 1990s was in part supported by market demand.

¹² See MCTEEB (1991, Ch. 3); and Yan Conghuai (1992) for a review of the policy packages released in the early 1980s.

¹³ Central Document 4 (1984) is entitled "Guanyu Kaichuan shedui qiye Xingjumian de baogao" (Report On the opening of a new front for commune and brigade enterprises).

¹⁴ Next section (3.3) provides a detailed analysis of increases both in farmers' income and agricultural output.

TWEs have provided an effective means to absorb the surplus rural labour force¹⁵. This is reflected both in the growth of TWEs employment and changes in the share of TWEs employment in the national total employment. As Table 3.3 shows, the size of TWEs employment, which was about 28 million in 1978, increased to 105.8 million by 1992, up by a factor of 3.7. This means that from the beginning of 1979 until the end of 1985 as many as 77 million people were absorbed into the labour force of TWEs. This change in absolute terms was correspondingly translated into a higher TWEs employment to total employment ratio. For the three regions, the increases, over the period of 1978-1979, in TWEs employment were all significant, ranging from a factor of 2.2 for Shanghai to a factor of 3 for Zhejiang. The changes in the share of TWEs employment in the total labour force were in general consistent with the increases in absolute terms. With the exception of Hubei, the rest all had a larger share than the national mean. One point merits noting in passing. The shares for 1992, for Hubei and Zhejiang, of TWEs employment as a percentage of the respective total labour force fell slightly, compared with 1987. While there were many reasons that contributed to this decline, the most important factor could be the reverse impacts from the austerity programme adopted in late 1988. The share for Shanghai in contrast increased substantially, reflecting a major policy change associated with the establishment of the Pudong New Area of Shanghai¹⁶.

Another part of the urbanisation story was explained by a growing tide of migration which started in the late 1970s. From the beginning of the 1980s and through the early 1990s vast and increasing numbers of people have moved, and are continuing to move, from rural to urban areas, which has transformed the traditional urban and rural pattern and has forcefully been driving the urbanisation.

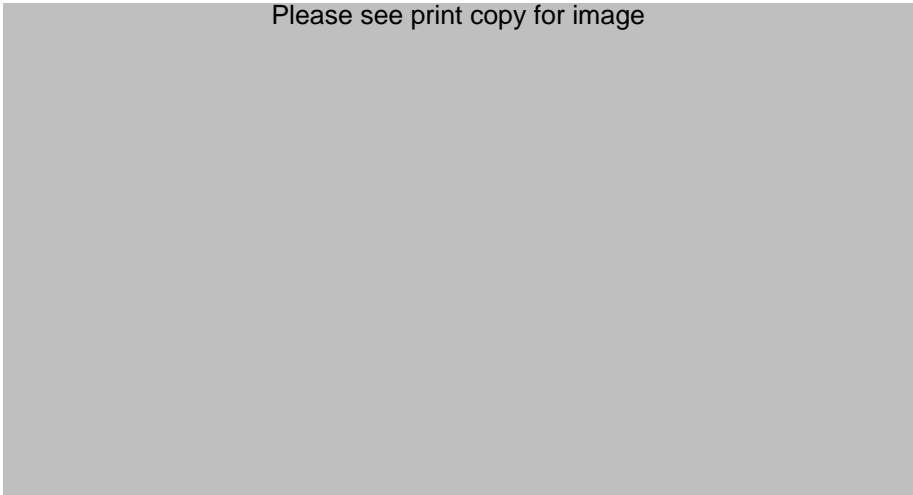
¹⁵ On reasons for the presence of huge numbers of rural surplus labour in China, see Yuan *et al.* (1992).

¹⁶ Pudong was designated an open economic zone that would enjoy a policy status more favourable than those already applied in the four original special economic zones (SEZs) and Hainan province. For the distinctive features of activities permitted in Pudong, see Bell *et al.* (1993, 43), and also Chapter 4 for a brief discussion.

A number of complex factors have prompted the migration, including the desire to pursue new and better opportunities¹⁷. But the most direct factors were the rural reform and the adoption of the spatial development strategy¹⁸. The rural reform demobilised rural surplus labour while the implementation of the spatial strategy opened them to new

**Table 3.3 Growth of TWEs Employment:
China and Selected Regions (selected years)**

Please see print copy for image



Source:- Department of Township Enterprises (1993)
MCTEEB (1991)
ACTEEC (1993)
Zhejiang Statistics Bureau (1994)
Hubei Statistics Bureau (1993)
Shanghai Statistics Bureau (1992)
State Statistics Bureau (1992)

Note:- @1990

and better opportunities¹⁹. This is partially reflected in the fact that a vast stream of migration has been flowing into urban centres in the coastal regions, the fore-front of

¹⁷ See Chung-tong Wu and Xu Xueqiang, 1990, for a brief review of the issue.
¹⁸ On the evolution of the spatial strategy, see Chapter 4 of this thesis.
¹⁹ Zhang Yi (1990a, 147-155) argues that the large surplus labour force in the rural areas has been a product of the model of industrialisation that China has followed for the first four decades after the creation of the republic. This view is also shared by Chen and Han (1993). They contend that the urbanisation mechanism that prevailed throughout the pre-reform period was highly controlled by the

Chinese spatial arrangement. However, a more important type of migration is rural to small town migration²⁰. There are three reasons why this has happened. A first reason is that large urban centres in China in general have limited capacity to absorb additional population due to either inadequate supply of living facilities or the existence of serious unemployment (Chen and Han, 1993, 240). Secondly, there have been a series of complex, restrictive administrative policies that have posed a barrier to migration between rural and large urban areas.

Rural to small town migration has largely been motivated by new job opportunities provided either by the establishment of township enterprises, or foreign-investment ventures, and can be observed in the most prosperous regions of China, such as the south-coast regions, and the Yangtze River delta areas. In less prosperous areas and inland regions, migration into small urban towns was often due to self-motivation to set up urban-based commerce or service-oriented enterprises (Chung-tong Wu and Xu Xueqiang, 1990, 136).

The observed rapid TWEs development and vast streams of rural to urban migration facilitated growth of urban centres. Table 3.4 shows that the total number of cities in China more than doubled over the first 12-years of reform. The most prominent increases were observed in the numbers of cities that contained a population above five hundred thousand (I and II). The regional picture was similar. For example, Hubei's total number of cities increased from only 6 in 1979 to 29 by 1991, with the increase being reflected mainly in the number of large cities. One point should be noted about the Table 3.4. The result summarised in this table has excluded the vast numbers of

state. It was that mechanism which forced rural labourers to remain on the land and created a unique dual system embracing rural and urban areas (pp. 266-271).

²⁰ A survey on 222 villages in 11 provinces conducted in 1987 revealed that of the total number of 26,993 migrants from these villages, rural to small town migration accounted for 29.4 per cent while rural to large city migration was only 3.8 per cent (Yuan *et al.*, 1992, 110).

small towns as the official statistics do not present a consistent and systematic recording of this entry. The exact number is hard to tell. But the statistic presented below at least helps to capture part of the concept. By the end of 1988 it was estimated that there were more than 11,400 small towns in China as compared with 2,000 in 1978 (Zhu Jie, 1992, 176). Development of small towns, as Zhu Jie (1992) has highlighted, was in part facilitated by policy arrangements, and in part was boosted by TWEs²¹.

Table 3.4 Growth of Urban Centres: China and Selected Regions (selected years)

Please see print copy for image

Source:- State Statistics Bureau (1992)
State Statistics Bureau (1993b)

Note:- I: Cities with a population above one million;
II: Cities with a population between 999,999 and a half million;
III: Cities with a population between 490,000 and 100,000;
IV: Cities with a population below 100,000.
-- not applicable; n.a. not available

It is by now clear that the rapid urbanisation which occurred in China over the post-reform period has essentially been policy-induced. The accelerated TWEs development, which transformed the rural occupation structures and stimulated the urban-based small industries, were the most significant driving force underlying the urbanisation of the Chinese population. Another driving force originated from the coastal development

²¹ For a detailed exposition of this argument, see Zhu Jie (1992); and Li Zongjing (1992).

strategy. The growing differentials in income levels between the coastal and other areas were the major source of motivation for many rural to city migrants.

3.2.3 Growth of Employment²²

Total employment given by the social labour force²³ increased at an average annual rate of 2.9 between 1973 and 1992 (Table 3.5), which is much higher than the growth rate of the total population, as shown in Table 3.1. In the two sub-periods, 1973-1979 and 1979-1992, the size of the employed population increased at average annual rates of 1.9 and 2.9 respectively; higher than the 1.5 percent average annual growth rate of population. As a result, the urban job-waiting rate declined from 5.3 percent to 2.3 in 1992²⁴. The enhanced growth of employment observed in the post-reform period was not only because of strong economic growth but also the continuing Chinese government commitment to full employment. Over the entire post-reform period, the emphasis in employment policy has been put on creating jobs for the growing tide of youth entering the work force in urban areas, and on absorbing some of the excess rural labourers into non-agricultural occupations, agricultural sideline development, or the production of cash crops. To supplement this employment strategy, the government has also emphasised the importance of training and education. It has successfully pursued a number of policies in improving the quality and skills of the labour force. These policies

²² A detailed discussion of the quality of social labour force in terms of years of schooling and changes in education is excluded due to scarcities of the consistent statistical data required for analysis.

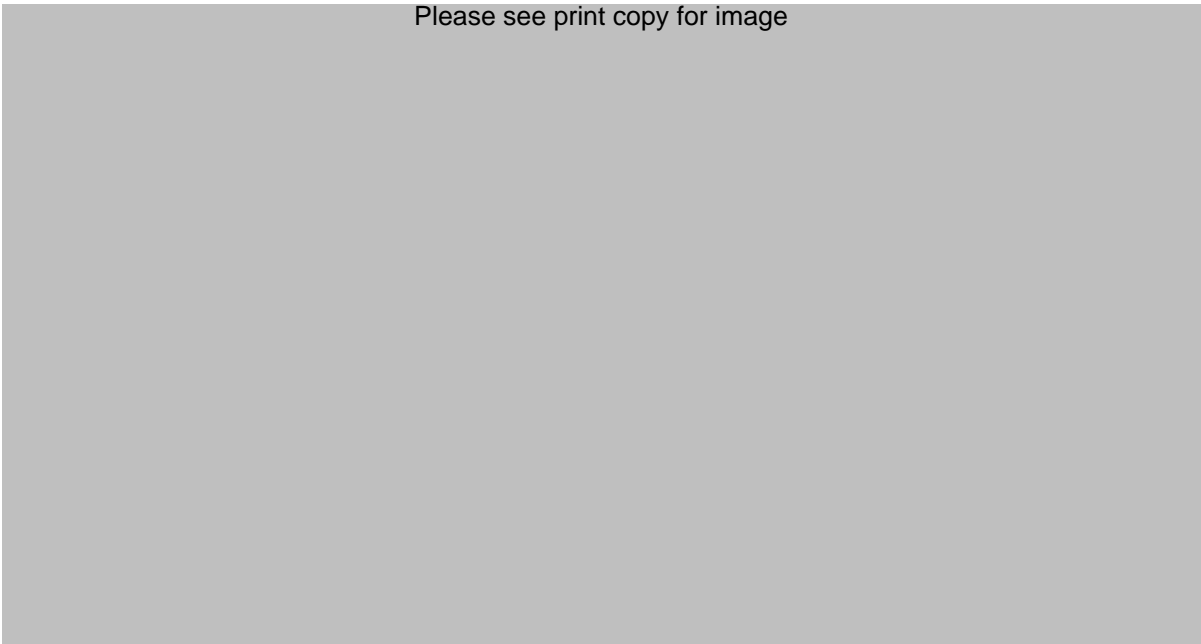
²³ Social labour force is defined as the total labour force who are engaged in certain social work and derive income therefrom. It includes: (1) staff and workers employed in state-owned units, various joint ventures and urban collective-ownership units; (2) urban individual labourers; (3) workers in rural collective-owned units and rural individual labourers; (4) those rural labourers who are engaged in a sideline and derive an annual income equal to the minimum income of a local social labourer or who are committed to social work for at least three months annually.

²⁴ China did not use the concept of unemployment for ideological reasons, and thus did not keep records using this concept. The urban job-waiting rate, which is believed to be underestimated, is only a rough indication of urban unemployment.

have included special training for workers through distance education and classes outside work hours. In addition, the government has also taken special efforts to improve the basic human capital infrastructure through enforcing the provision of compulsory basic education and restoring normal tertiary education. These policies have not only stimulated employment but have encouraged and facilitated structural shifts in employment as well.

Table 3.5 Growth of Employment in China (1973-92)

Please see print copy for image



Source:- Computed from:

State Statistics Bureau (1992; 1993a)

Note:- *1991

© Social labour force divided by total resources of labour force

⊗ is given by the formula:

Urban job waiting rate = $\frac{\text{Job-waiting persons}}{\text{urban social labour force} + \text{urban job-waiting persons}} \times 100$

The increase in the labour force and employment during the 1973-92 period was almost totally absorbed by the industrial and service sectors²⁵. Employment in the agricultural sector showed a minor decline between 1973-78, and a marked decline post-1978. In 1973, nearly four fifths of the social labour force was engaged in farming. But by 1992, agriculture's share fell to three fifths of the total, down 19 percentage points. In

²⁵ See Table 3.6

contrast, employment in the industrial sector grew at an average annual rate of 4.8 percent in the 1973-79 period and 9 percent for the 1979-92 period. A consequence of this accelerated growth rate has been a marked increase in share. But the widest shift in magnitude was observed in the service sector, whose share of the social labour force more than doubled during the 1973-91 period. Employment in the service sector increased at an average annual rate of 6.8 percent and 7.6 percent respectively in the same two sub-periods. The sectoral distribution of the social labour force of the three

**Table 3.6 Changes in the Structure of Social
Labour Force: China and Selected Regions (1973-91)**

Please see print copy for image

Source:- Computed from:
State Statistics Bureau (1992)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1992)
Shanghai Statistics Bureau (1992)
SYECEB (1993)

Note:- * 1985
n.a. not available

regions revealed similar patterns and trends. In Hubei, for example, agriculture's share declined from 77 percent in 1978 to 62 percent by 1992, down 15 points; while industry's share increased from an initial 14 percent in 1978 to 20 by 1992, up 6 points.

The changes in the structure of the social labour force as indicated above in part reflected a tremendous change which occurred in China's industrial policy in the post-reform period apart from a number of other factors, including TWEs, which have already been noted, improved industrial performance and fast agricultural growth, which are to be discussed in later sections. This reallocation of the social labour force implies a transition of the economy from a traditional to a modern one.

3.3 Growth of Total Product and Income

In this section we attempt to outline the growth path of the Chinese economy. We first present the results and findings on the growth of the economy. We then highlight some of the major forces underlying the growth process. Several points warrant mentioning explicitly at the beginning of this section. For the determination of growth rates for total product, securing an acceptable series of estimates in constant prices is necessary. Insofar as China is concerned, several sources are available²⁶. But the official estimates available in China are of only gross national product at market prices²⁷. This gives rise to two issues, namely, the accuracy of GNP as an indication of the domestic economic performance²⁸ and the conversion of the data from current to constant prices.

²⁶ World Bank, for example, has published in *World Tables 1994* estimates of both GDP and GNP at market and constant prices.

²⁷ Only since 1985 have estimates of GNP in China been released with more traditional macro-economic measures. In the official publications that we have obtained, the released GNP estimates have only covered the post 1978 period. More recently, GDP approximations have begun to be released. But the time coverage is too short to satisfy the proposed study.

²⁸ It should be noted that inevitably in a underdeveloped country, there are substantial statistical errors just because the statistical collection system has weakness; in additional, during the shift to a market

Since we have used the GNP estimates mainly from Official Chinese sources²⁹, we are thus concerned here only with the shift of the aggregates from current to constant prices. We have selected 1987 as the base year for converting the recent totals and those back in the 1970s. This implies that approximations to quantity indexes of output of the various goods are weighted by their 1987 prices. A current value series of a specific commodity or service deflated by a price index to the base of 1987 yields, for every year, the quantity of the good weighted by its 1987 prices. It is generally true that if the volumes of some goods grow more rapidly than those of other goods, their prices rise less rapidly (or decline more) than those of other goods. This negative association over time between relative changes in quantities and prices is caused by the differential impact of technical change on costs, hence on prices, and on the differences in growth rates in the demand for various goods. Because of this negative association, the growth rate of an aggregate in constant prices depends on the position of the base year within the growth of period (and, of course, on the extent of structural change). The use of initial year prices yields higher growth rates over the period than the use of terminal year prices. The difference can be substantial, and is meaningful. Given this difference in meaning and the analytical significance of each, no single way of choosing the base year for conversion of product to constant prices is 'correct'³⁰.

economy, certain things get counted that were not counted properly before, and on the other side, the opportunities for an undercounted grey market multiply. Notwithstanding these problems there are several reasons for substantial confidence in the rough magnitude of the growth numbers (see, Overholt, 1993).

²⁹ Throughout this thesis, we use official Chinese sources for the required series of data whenever and wherever possible, for statistical consistency. Alternative sources have data for China but not for the selected regions.

³⁰ See Kuznets (1979).

3.3.1 Analysis of Long-Term Growth

China's economic performance in the two selected decades (1973-92) and the two subperiods, 1973-78 and 1978-92, is reflected in the results presented in Table 3.7. As indicated in the table, real GNP of China grew at an average annual rate of 7.7 per cent for the whole span, 4.5 for the pre-reform period and 8.1 the reform period. Real GNP increased by a factor of 3.8 over the two decades 1973-92, and by a factor of 3 over the economic reform period; while real per capita GNP³¹ grew at an average annual rate of 6.2 per cent over the overall span, and of 6.6 per cent during 1978-92 compared with merely 3 per cent in 1973-78. The growth of the three regions reflects the same pattern. Of the three selected regional economies³², with the exception of Shanghai, the two provinces outperformed the country average in growth rates during the two-decade span. As the table shows, real GNP grew in these two provinces at an average annual rate of well over 8 per cent [see column 5] between 1973-92, whereas, during the same period, real per capita GNP grew, respectively, at an average annual rate of 9.3 per cent for Hubei, and 10.5 per cent for Zhejiang. The growth rates in these two provinces accelerated in the post-reform period³³. The differences between the regions in terms of growth rates is suggestive of a series of unparallelled factors underlying the growth

³¹ Since growth in total product was related not only to that in total population, but also to that in population of working ages (fifteen and over), we have used the concept of per capita GNP as an alternative indication of growth performance. However, it should be noted that the concept of per capita GNP, while providing a better approximation to the relevant per capita product, is still subject to limitations in that it excludes a variety of productive activities within the household and fails to recognise and deduct implicit costs associated with industrialisation and the shift from the rural village to urban industrial conditions of life and work.


³² The slow growth rates of Shanghai's economy over the economic reform period could be a result of a series of factors inclusive of political, social as well as economic elements. Shanghai used to be the stronghold of the Gang-of-Four before 1976. As a political game strategy, Shanghai's economic growth was much suppressed, for a good period after the endorsement of China's economic reform. Therefore, Shanghai's economic performance is affected by political factors. However, exploration of various factors is required to have a profound understanding of the slowdown in the growth rate of Shanghai's economy.

³³ See Columns 6 and 7.

processes of the respective economies. Thus an adequate understanding of the growth performances of these economies warrants elaborations on these factors.

**Table 3.7 GNP, GNP Per Capita and Sectoral GNP
Growth: China and Selected Regions (selected years)**

Please see print copy for image



Source:- Computed from:

State Statistics Bureau (1993a)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1994)
Shanghai Statistics Bureau (1992)
SYECEB (1993)

Note:- @ denoted in constant 1987 yuan
n.a. not available

The growth acceleration observed in the post-reform period in general reflected the improved efficiency of resource allocation in the domestic economy following economic reforms and foreign trade liberalisation. That the shift away from a closed to a more open economy should improve the allocative efficiency in developing economies

and contribute to faster growth has long been a well-established argument. But the extent to which trade liberalisation should improve the efficiency and contribute to more rapid growth largely depends on the degree of domestic policy liberalisation (Lardy, 1992, 2). In the case of China, the domestic reforms in general facilitated the realisation of the potentially large efficiency gains of a more open trade strategy, although these reforms lagged the trade reform.

The domestic reforms were important and at least partially successful in two aspects. First, the decommunisation in the rural areas through implementing the household responsibility system and assigning fields to farmers throughout the late 1970s and the early 1980s demobilised excess rural labourers and thus increased the responsiveness of rural labour to new opportunities. This in general contributed to the dynamic growth observed in the rural sector in the early 1980s and improved efficiency in the economy. In urban areas, the attempts to decentralise decision-making autonomy to enterprises through a number of measures including institution of the Enterprise Retention Scheme, Profit Tax System and Contractual Responsibility System³⁴, helped to create a more competitive micro-economic environment in which enterprises could act more independently and rationally, although the industrial reforms were widely claimed to be less successful in terms of achieving the goal of improved efficiency. The efforts to expand the role of the market mechanism in resource allocation were enormous and in general substantially reduced domestic distortions and hence improved the conditions for trade liberalisation. These measures improved the domestic allocation of resources and have contributed to the enhanced growth of China's economy since the late 1970s.

Thus the faster growth during the post-1978 period was occasioned by a number of factors, including the rapid growth of investment, discussed in the next subsection

³⁴ See Section 4.2, Chapter 4 of this dissertation for an elaboration.

(3.3.2), accelerated growth of foreign trade, which is considered in the fifth section (3.5), and the extraordinary performance of TWEs.

**Table 3.8 Trends: Output and Growth of TWEs³⁵,
China and Selected Regions (1978-92)**

Please see print copy for image

Source:- Computed from:
Department of Township Enterprises (1993)
State Statistics Bureau (1993a)
Hubei Statistics Bureau (1993)
Shanghai Statistics Bureau (1993)
Zhejiang Statistics Bureau (1994)

Note:- I: Gross output value of TWEs
II: Gross industrial output value
III: Gross agricultural output value
*1986
⊕ 1978-86
© 1986-92

Table 3.8 shows that the output of TWEs in value terms grew at an average annual rate of 23.4 per cent for the 1978-1992 period, 21.5 and 17.5 for the two sub-periods:

³⁵ The average annual growth of the regional TWEs is expressed in compound rates. The data for the 1978 and 1986 TWEs output of the three regions are derived from Department of Township Enterprises (1993, 452) and Islam and Jin (1994, 1661).

1978-1985, 1985-1992, which is much faster than gross output value of industry and agriculture in the economy, and the output of state-owned enterprises (SOEs)³⁶. The output value increased from 72.2 billion yuan in 1978 to 1,134.2 billion yuan by 1992, implying an increase of a factor of 15.7. The share of TWEs in industrial output rose from 11.7 per cent in 1978 to a striking 47.6 per cent by 1992 and that in the value of gross rural output from 24.3 in 1978 to 66 per cent by the end of 1992³⁷. The regional growth rates of TWEs, in some cases, were even more remarkable than the national average.

The role of TWEs in the growth process of the Chinese economy were essential from two perspectives. First, TWEs fostered and boosted rural industrialisation and urbanisation, which in return generated massive investment demand and demand for consumer goods and materials for industrial inputs, thereby stimulating growth of the agricultural and industrial sectors. This pattern of growth was observed to prevail during the latter half of the 1980s and has become even more common in the early 1990s. In addition TWEs provided an important source of income for rural households³⁸, and thus served as a stabiliser for the society. The stability observed in the Chinese society was a very important element in the conditions for the faster growth which occurred.

The long-term growth rate differentials across the period, and across the regions, largely reflected both the levels and growth rates of labour productivity³⁹. As Table 3.9 indicates, China's per worker GNP in 1987 constant prices, increased from an initial 1,100.8 yuan in 1973 to 1,302.7 yuan in 1978, and then jumped to 2,597.5 yuan by 1992, which implies that labour productivity increased by a factor of 2 over the reform

³⁶ See Section 3.6 for a discussion of the SOE sector.

³⁷ Department of Township Enterprises (1993, 6).

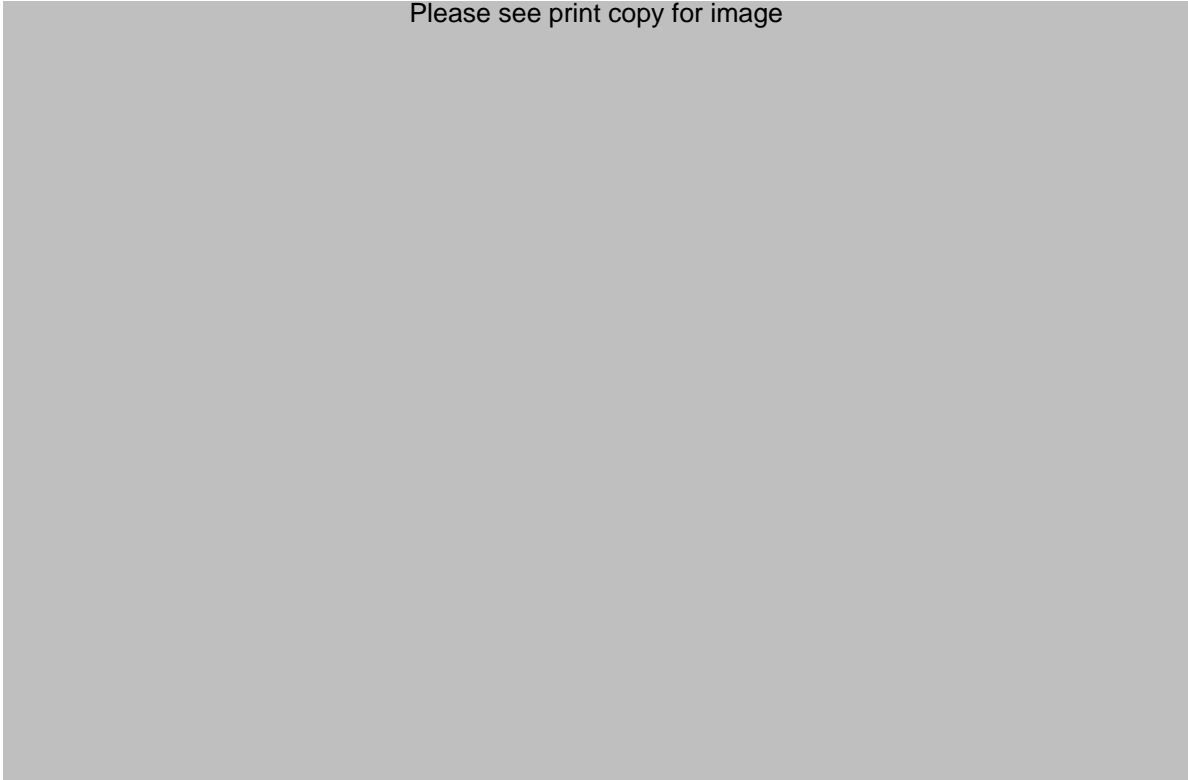
³⁸ See Islam and Jin (1994) for a detailed investigation of this topic.

³⁹ Li Jingwen (1994) shows that high productivity growth was the second most important factor (next to capital input) that contributed to the high rates of economic growth in the period 1979-90. In his accounting framework, productivity growth accounted for about 30 per cent of total growth.

period, and by a factor of 1.18 over the pre-reform period. The national average labour productivity registered a growth rate of 5 per cent for the post-reform period, about two and half percentage points higher than the pre-reform era. On the regional level, a severe lack of data prevented us from giving a fuller picture⁴⁰. But the limited findings do

**Table 3.9 Productivity Growth: China
and Selected Regions (1973-92)**

Please see print copy for image



Source:- Computed from :

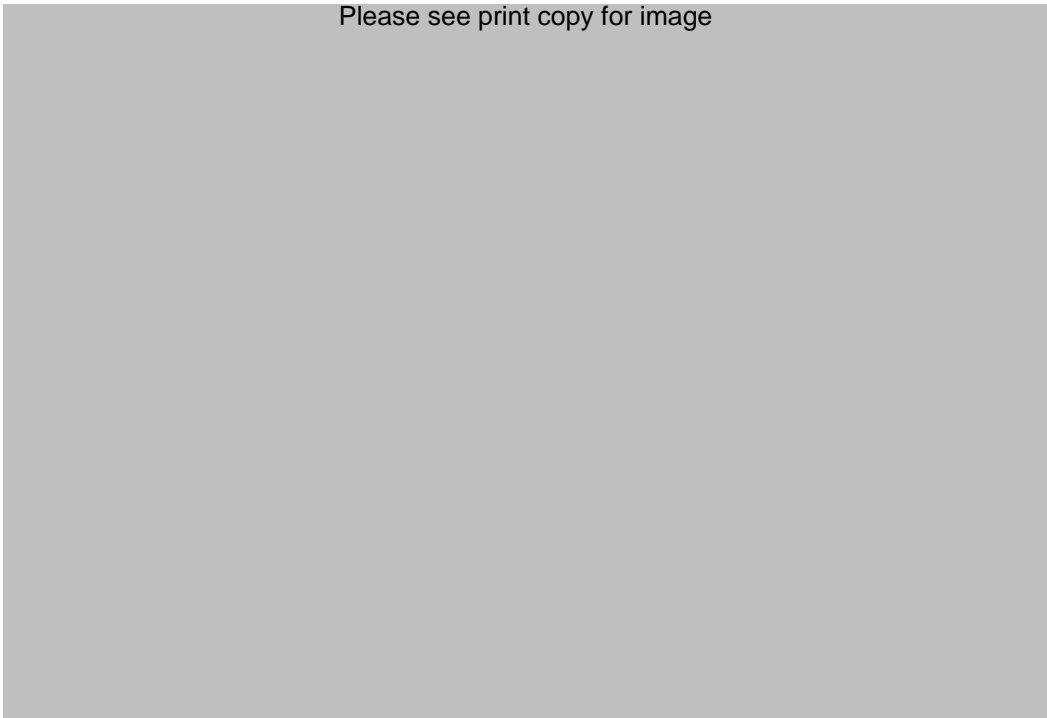
State Statistics Bureau (1993a)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1994)
Shanghai Statistics Bureau (1993)

Note:- @1975
⊗1985
®1970
©compound rate
*1975-1992

⁴⁰ The estimates of the sectoral distribution of GDP are available for the entire period of 1952-92 in Hubei and Zhejiang, but estimates of the sectoral distribution of social labour force are only provided from 1985 onwards in Zhejiang, and as of 1978 in Hubei; while for Shanghai only very recent data on the sectoral distribution of social labour force is available.

support a close association between productivity growth and GNP growth. From 1978 through 1992, the ranking of the three regions in terms of the average annual growth rates of per capita GNP is paralleled by that given by GNP and per capita GNP growth as shown in Table 3.7.

Figure 3.1 Real GNP Growth of China (1974-92)



Source:- Computed from:
State Statistics Bureau (1993a)
IBRD World Tables (1993)

Note:- Based on 1987 prices

The long-term picture conceals major short-term fluctuations in China's economic performance over the two decades. Figure 3.1 shows the yearly growth path for real GNP in China 1974-92. The overall growth path exhibits troughs and peaks. After maintaining average growth rates of approximately 5 percent in 1974-75, the economy fell into a trough declining to a minus 3.3 percent rate of growth in 1976, and then climbed rapidly to a 10 per cent annual rate in 1978-79. The Growth rate slowed down to around 5 per cent annually in 1980 and entered the second main trough in 1981. After this trough, the growth rate rapidly rebounded to more than 13 per cent in 1982; and

after a little slow-down in 1983, the growth rate accelerated in 1984, to a level well above 16 per cent. The annual growth rate steadily decelerated (maintaining a rate above 5 per cent) 1985-88, and declined to a trough in 1989. The annual growth rate of the economy rebounded in 1990 and accelerated in 1991-92.

Several features of the growth path are worthy of noting. First, the overall growth path has exhibited three main troughs and peaks, each of which is a reflection of social, economic and political factors. The first trough is 1976, reflecting a reduced interest in investment effectiveness and maximising outputs which accompanied political debate of the late Cultural Revolution period⁴¹. The second main trough which occurred two years after the official implementation of economic reform and opening-up reflects the aftermath of the Cultural Revolution and some distortions caused by a Great-Leap-Forward style policy package implemented in 1976-78 period⁴². The third main trough as observed in 1989 is a result of efforts to deal with unacceptably high inflation and macroeconomic instability which echoed the Tiananmen incident in early June⁴³. Leaving aside the troughs, Figure 2.1 also shows that the growth path featured three peaks of high growth. The growth performance in the first peak period, 1977-80, is largely attributable to enhanced enthusiasm for investment and output maximisation associated with the implementation of the radical strategy of development in 76-78⁴⁴. The high growth achieved in the second peak period reflects dynamic growth in the agricultural sector and rural small-scale industry, the resurrection of the private sector

⁴¹ The Cultural Revolution is officially defined to cover the period 1966-76. The peak Cultural Revolution period is 1966-1968. 1976 is a turning point in China. It witnessed the power struggle following Mao's death.

⁴² After the death of Mao, China adopted a radical strategy of development which shares much similarity with the Great Leap Forward. Unrealistic targets of production and construction were set for action. This gave a "once-and-for-all" stimulus to the economy. The strategy was later condemned for lacking efficiency and realism (also see Section 4.2, Chapter 4 of this thesis).

⁴³ In late 1988, a rectification programme was launched in China to tackle the accelerated inflation problem. The plan was characterised by tightened monetary and fiscal policies.

⁴⁴ See Note 20 of Chapter 4.

and the opening up to the world economy. The acceleration of the rate of growth which follows the third main trough, it may be argued, was attributed to reinforced efforts to maximise output, to a further commitment to deepening economic reform and opening up to the world economy. Second, the annual rates of growth of the economy in the post-1978 period accelerated as compared with those prior to 1978⁴⁵. This acceleration was associated with changes in institutions and policy in the rural sector, urban economy and foreign sector.

**Figure 3.2 Index of GNP Per Capita:
Selected Regions (1978-92)**

Please see print copy for image

Source:- Computed from:

Hubei Statistics Bureau (1993)

Zhejiang Statistics Bureau (1994)

Shanghai Statistics Bureau (1992; 1994)

Note:- Based on 1987 prices

China's per capita GNP in 1987 prices, which was 452 Yuan in 1973, increased to 543 Yuan in 1978, and then jumped to 1,317.5 Yuan by 1992. This implies that per

⁴⁵ See also the results published in Table 3.7.

capita real income increased by a factor of 2.9 over the two decades 1973-92, and by a factor of 2.4 over the economic reform period. At the regional level, marked increases were also observed⁴⁶. However, behind these changes there has been a notable tendency since 1978 for technical catch up to occur although income levels have not been converging. The two poor regions- Hubei and Zhejiang, which had a substantially lower per capita GNP, grew much faster than the rich economy-Shanghai (see Table 3.7). Further evidence is given in Figure 3.2 which shows that Hubei and Zhejiang, compared with Shanghai, have recorded much faster growth in the index of GNP per capita. These two regions are also the economies where we observed faster growth of GNP per worker. In the approach of new growth economics, these differences in the long-term economic performance observed among the regions were a consequence of differentials in the rate of growth of the residual, which are caused by the choices of private and public sectors.

3.3.2 Investment: An Engine of Long-Term Growth

High investment growth was a crucial factor that contributed to the rapid post-reform growth of the Chinese economy⁴⁷. Table 3.10 gives, for the period 1978-1992, the growth of total investment in fixed assets. During the entire post-reform period, the total fixed investment grew at an average rate of 12.5 per cent, and, in absolute terms, increased by a factor of 5.3 (Row 1, Panel A). The regions on the average experienced even faster growth in fixed investment. Zhejiang registered the highest growth rate (23.4 per cent). The principal factor accounting for the surge of fixed capital expansion is the

⁴⁶ Over the two periods: 1973-92 and 1978-92, real per capita GNP increased by a factor of 3.1 per cent and 2.5 per cent in Hubei, and 5.2 per cent and 3.9 per cent in Zhejiang. Real per capita GNP for Shanghai increased by a factor of merely 1.5 per cent.

⁴⁷ According to Li Jingwen (1994), capital input was the most important source of economic growth, accounting for about a half of economic growth, over the 1979-90 period. See also Note 39 of this chapter.

**Table 3.10 Trends: Total Investment in Fixed Assets,
China and Selected Regions (selected years)**

Please see print copy for image



Source:- Computed from:
State Statistics Bureau (1990; 1993a)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1994)
Shanghai Statistics Bureau (1994)

Note:- I: Domestic investment
II: Foreign investment
©1981

progressive decentralisation in resource control and decision making⁴⁸. Another highly important factor is growing investment demand arising from huge infrastructure

⁴⁸ See Wang Yijiang (1991) and Wanda Tseng *et al.* (1994) for an extended discussion.

construction, accelerated growth of energy industries and the boom in the service sector as observed in the economic reform era⁴⁹.

Inadequate transport, communications, energies, and other forms of capital-intensive infrastructure began to pose a major barrier to economic development in China in the late 1970s and early 1980s. The Chinese government realised that unless that barrier was removed, economic growth in China will be constrained. Thus the government began from the early 1980s to make strenuous efforts to stimulate the construction of transportation and communications networks as well as energy industries. During the periods of the Sixth Five-year and the Seventh Five-year Plan, investment in the transportation and postal service sectors accounted for an average 13 per cent of China's total basic construction investment, whereas investment in energy industries accounted for 23.8 per cent. The total investment in energy industries increased from an initial 14.2 per cent in 1981 to approximately 18 per cent by 1991. In contrast, the investment in the transport and postal service sectors, which was 6.1 per cent of China's total fixed investment in 1981, increased to 9.1 per cent by 1991⁵⁰. The high growth of investment in infrastructure is also reflected in the strong growth of investment in transport and postal service. Over the 1981-91 period, the total investment in transport and postal service grew at an average annual rate of 10.9 per cent, and increased by a factor of 3.8 (Panel C, Table 3.10). The selected regions registered even higher growth in infrastructural investment. Take Zhejiang for example. During the 1981-91 period, the investment in transport and postal service grew at an average annual rate of 37.2 per cent and, in absolute terms, went up by a factor of 8, which is much faster not only than national average but the other two regions as well.

⁴⁹ In a market economy, actual investment depends on expected rates of return, not saving, although saving is necessary for high investment. However, in a command economy like China, actual investment is essentially a direct product of economic planning. This is particularly true in the 1980s when market mechanisms were playing a very limited role in allocating resources.

⁵⁰ Computed from Tables 5-5 and 5-19, *Statistical Year-Book of China 1992*.

The importance of investment to a nation's economy is reflected in two different respects. First, it raises effective demand and, second, it increases the economy's capacity to produce because fixed investment leads to an increase in fixed capital stock. In the light of the Chinese experience, infrastructure-related investment was the strongest element of effective demand which sustained the enhanced growth performance during the 1978-1992 period⁵¹. Apart from this demand-push effect, the huge investment in infrastructure also generated large external effects in the system. On the one hand, the high investment growth tended to induce further investment demand in infrastructure-related industries, such as energy and raw materials. On the other hand,

**Table 3.11 Trends: Gross Domestic Saving⁵²,
China and Selected Regions (1973-92)**

Please see print copy for image

Source:- Computed from:
State Statistics Bureau (1993a)
Shanghai Statistics Bureau (1993)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1993)

Note:- NI: National Income
Growth rates for Shanghai are compound rates
⊕1975
Ⓢ1975-1978
Ⓢ1975-92

⁵¹ See Zhou Zhenhua (1995)

⁵² Note that China's consumption and accumulation do not amount to 100 percentage points. This is mainly due to discrepancies.

it also stimulated the development of certain service sectors. The rise of consultancy, financial and insurance sectors since the late 1980s could be seen as a good example of this. In short, the growth of infrastructure-related investment has contributed to the fast growth of the Chinese economy through substantially raising effective demand and revealing new investment opportunities.

The high levels of investment over the post-1978 period have been sustained largely by high domestic savings⁵³, and, to a less extent, foreign investment. Domestic savings and investment have been traditionally high in China, but the high levels of investment were translated into consistently impressive growth only with the revamping of the incentives structure and the internationalisation of the economy which started in the late 1970s⁵⁴. As Table 3.11 shows, China's saving rate, which accounted for 32 per cent of national income in 1973, rose to 36.1 per cent in 1978, and then fell back slightly to 34.4 per cent. If the year to year fluctuations in the saving ratios are disregarded, the saving ratios in two out of the three regions have continuously increased over time. The growth rates of accumulation for the national and two sub-economies accelerated during the post-1978 period compared with the pre-reform era, largely reflecting the increased incomes of the Chinese people and changed patterns of consumption⁵⁵. On the other

⁵³ Domestic saving ratio is defined here as the ratio of the amount of capital accumulation to national income.

⁵⁴ China maintained a domestic saving ratio of slightly more than 20 per cent for most of the 1950s. The rate increased dramatically during the Great Leap Forward, to as high as 43.8 per cent in 1959. The adoption of economic readjustment policy aimed at reducing excessive investment brought the rate down to its lowest point of 10.4 per cent in 1964. But it subsequently climbed back to about 30 per cent. Except for a slump at the height of the Cultural Revolution (1967-1969), it remained around 30 per cent until 1981 when the accumulation rate was temporarily lowered in response to a second readjustment. But it soon bounded back to over 30 per cent (State Statistics Bureau, 1992, 40).

⁵⁵ Nurkse (1953) argued that capital shortage in the less developed countries had followed from the "vicious circle" of underdevelopment wherein productivity was low, low productivity curbed incomes, and low incomes were inadequate to generate enough savings to finance the investment needed to raise productivity. The post-reform situation in China is virtually opposite wherein enhanced productivity

hand, as distinct from the pre-reform period, China has encouraged foreign investment, particularly direct foreign investment (DFI), over the post-1978 period on grounds that it supplements domestic capital and brings in new knowledge and entrepreneurial skills⁵⁶. As indicated in Panel B of Table 3.10, the share of foreign investment in the total fixed investment of the country showed a slight fluctuation during the period under observation, reflecting changes in the country's balance of payments conditions and policies. On the regional level, the share of foreign capital in the fixed investment of the respective economies steadily increased over the observed period, reflecting in part the efforts of these regions towards attraction of foreign capital and their positions in the spatial development strategy.

3.4 Changes in Production Structure

Increases in total product (either GNP, per capita GNP, or per worker GNP) of the magnitude that occurred in China over the two recent decades in general, and the post-1978 period in particular, were necessarily accompanied by a rapid change in production structure. By the latter we mean the variety of industries comprising the national economy, namely, agriculture, manufacturing, transportation, trade, services, and their components. In analysing structure, we are concerned with the relative contribution of these industrial branches to total product and in their share of labour and capital. Production structure is important because industries differ in the kind of final product to which they contribute, in the technological process involved, in their contribution to growth at different stages of a country's economic development, in the relative

resulting from the structural reforms increased incomes, and higher incomes permitted the saving needed to finance the investment which in turn raised productivity.


For a detailed analysis of the major factors underpinning the current high saving in China, see Yin Chuanhong (1995).

⁵⁶ See Section 2 (4.2), Chapter 4 for a detailed discussion of the policy arrangements that have been made to encourage foreign investment.

proportions of labour and capital required, in the quality of labour needed, and in conditions of work they entail.

**Table 3.12A Changes in the Structures of GNP and
Gross Material Product and Social Labour Force:
China and Selected Regions (1973-92)**

Please see print copy for image



Source:- State Statistics Bureau (1993a)
Hubei Statistics Bureau (1993)
Zhejiang Statistic Bureau (1992; 1994)
Shanghai Statistics Bureau(1992)

Note:- @ 1985
n.a. not available

Tables 3.12A and 3.12B summarise the distribution of gross national product, gross material product⁵⁷ and the social labour force. The shares of the various production sectors are in constant 1987 prices. The exclusion of the distribution of capital, which is understood to be an important omission, is due to lack of data. The findings and results presented in these two tables may be indicated briefly. First, during the entire period from 1973 until 1992, while the share for agriculture as a whole declined when observed for both GNP and gross material product, short-term fluctuations in the movement of agriculture's share occurred. During the 1978-84 period, agriculture's share of gross national product jumped from 28 to 33 per cent (see Panel A, Table 3.12A), and its share of gross material product exhibited a similar trend (Table 3.12B). This temporary reversal reflects improved performance of the agricultural sector which resulted from changes in rural institutions and macro-economic policy packages⁵⁸. Industry, on the other hand, shows a mixed picture. As indicated in the table, during the complete time span, industry's share in the gross material product shows a upward trend, increasing from an initial 58.5 at the beginning of the period to 66.4 by 1992 (Table 3.12B); its share of gross national product, in contrast, declined by one per cent⁵⁹. The difference between the two observations is indicative of an increasing amount of material being used to produce a unit of output in the industrial sector⁶⁰. The service sector shows a distinct upward trend, with its share of gross national product climbing from the initial 23 per cent to 28 per cent. This feature is a logical developmental phenomenon. The increase in part reflects the orientation of Chinese policy, and was largely due to the urbanisation movement observed over the post-1978 period. Of particular interest is the

⁵⁷ Gross material product is the total output value generated by agriculture, industry, construction, transportation and commerce (including food and material supply sectors) sectors.

⁵⁸ See Anderson (1990, Ch 3) for an excellent review of the evolution of output structural changes and its underlying policy influence.

⁵⁹ This seems to be a remarkable counter-developmental phenomenon in a developing country. But it is superficially and not actually counter-developmental because the phenomenon reflects a temporary and eminently developmental structural adjustment caused by the dynamic advance of the service sector.

⁶⁰ This could be largely due to the inefficiency of SOEs.

movement of the trends in structural shifts in the three regions. When observed for both gross national product and gross material product, the trend in structural movement is distinctive. The economic structure, in the two provincial economies, shifted rapidly away from agriculture towards industry with the former's share gradually declining and the latter's share steadily increasing. However circumstances are different in Shanghai⁶¹, where from 1978 through 1992, the share of the agricultural sector in GNP declined slightly while industry's share actually fell 13 per cent. The share lost by the industrial sector in Shanghai was absorbed completely by the service sector.

Second, some changes occurred in the balance of industrial output distribution. The share of light industry increased in accordance with the relative decline of heavy industry, reflecting China's move away from a Stalinist economy. These trends in the distributive shares of light and heavy industries indicate major differences in growth rates⁶². The strong performance of light industry compared with heavy industry was attributable to a number of factors. Changes in plan priorities and development strategy largely accounted for the result. Apart from this, the rapid growth of purchasing power in rural areas and enhanced income elasticity of demand for light industrial products were important driving forces from the demand side. On the supply side, the production of light industrial inputs such as cotton, leather, and timber from agriculture grew rapidly, and much capacity shifted from heavy to light industrial production. Moreover, the fact that overall productivity of capital almost certainly increased so that less input was required to produce a unit of final product was one essential factor among many.

⁶¹ Combining the situations of both the provincial economies and the city economy is suggestive of economic catching up taking place, with the initial agricultural regions catching up with the original industrial city.

⁶² Nolan and Dong (1990) identified a striking reversal in the growth rates of heavy and light industries. During the period of 1978-1987, the gross value of light industrial output accelerated from an initial 8.7 per cent in the 1952-1978 period to a real annual average growth rate of 14 per cent, while that of heavy industry declined to around 10 percent from the pre-reform 13 per cent.

The unparalleled changes observed in the regions to a large extent reflect the structural characteristics of their industrial sectors.

**Table 3.12B Distribution of Gross Material Product
by Industrial Origin: China and Selected Regions (1973-92)**

Please see print copy for image

Souce:- State Statistics Bureau (1993a)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1993)
Shanghai Statistics Bureau (1992)
Note:- n.a. not available
©1970

Third, the labour force structure moved dramatically. The initial share of agriculture, which was 79 per cent in 1973, declined to less than three fifths. Industry's share, in contrast, increased from 12 per cent in 1973 to 22 per cent by 1992, a rise of a factor of 1.8, while that of the service sector rose from 9 per cent in 1973 to 20 per cent by 1992, amounting to an increment of a factor of 2.2. It should be noted that the sharp increase in the distributive share of labour force in the secondary sector (Panel B, Table 3.12A) when coupled with a decrease in the share of output, as Panel A illustrates, is indicative

of a decline in labour productivity. At the regional level, there were two economies that resembled the trend of the national. In Zhejiang, however, a slight decline in the share of the industrial sector paralleled a decrease in agriculture. This is perhaps only a short-term fluctuation. The long-term picture is not known due to insufficient data disaggregation.

The rise of township enterprises is a significant indication of the rapid changes in economic structures that occurred in the reform period. As marked as the growth of output of the TWEs which was discussed in the last section (3.2), is its diversification into commerce, construction and other industrial sectors. As Table 3.13 indicates, agriculture's share of the total output in township industries declined substantially from 7.5 per cent in 1978 to only 1.4 per cent by 1993. The cumulative share of the industrial sector (lines 4-6, Panel A) increased greatly. Within the industrial sector the shares of both construction and transport show marked rises, with the former rising by a factor of 1.6 and the latter by a factor of 1.8. The share of commerce more than doubled. With respect to employment distribution, the sectors that show marked rises in shares were construction, and commerce and transport. Particularly worth noting here is the movement of industry's share, which first rose nearly 10 per cent (in 1978-84) and then declined sharply (after 1984)⁶³. Agriculture's share of employment, as well as total output, showed a distinct downward trend⁶⁴.

Another point that warrants separate mention is the change in the ownership pattern of township enterprises. As Panels B and C show, in the early period of economic

⁶³ The trend of industry's share in output exhibited exactly the opposite movement. As indicated in Panel A, between 1978 and 1984, the share of industry in total output declined by 4.8 per cent, and gradually went up after 1984. Underlying this pattern of trends is the movement of the level of labour productivity.

⁶⁴ A close look at the path of movement of agriculture's share reveals a rising trend of labour productivity in this sector. This, as we have argued in the previous section, is seen to be as the results of the efforts to reform the institutions in the rural sector.

reform, enterprises under collective ownership were the dominant form of rural industry in terms of output and employment. This situation has changed since the mid-1980s. The later period witnessed the rise of non-collective enterprises. By 1993, the collectively-owned enterprises' share of output declined to only 64 per cent while their share of employment fell short of a half. Paralleling the reduction in shares of collective economies is a striking increase in the share of the individually-owned enterprises. This is indicative of a general trend to privatisation⁶⁵.

**Table 3.13 Changes in the Structures of
TWEs in China (1978-93)**

Please see print copy for image

Source:- Computed from:
Department of Township Enterprises (1993, 1994)
ACTEEC (1993)

Note:- ..not applicable

⁶⁵ This reflects a major policy shift. In the early period of and before the economic reform, private economic enterprise was almost completely ruled out when the ideology was dominated by a belief in the merit of state-ownership. With development of the reform process, private enterprise was officially endorsed in the early 1980s. But actual rapid development occurred only after the mid-1980s.

3.5 International Trade

3.5.1 Growth of Foreign Trade

In some respects, the greatest single change in China's economic policy during the recent two decades was in the attitude towards the international economy⁶⁶. Following a long period of slow export growth and a steadily falling share of world trade, China's trade performance improved markedly in the post-1978 period⁶⁷. As Table 3.14 shows, growth rates of trade and exports at both the national and regional level rose from around 5 per cent per annum in the 1973-78 period to over 10 per cent in 1978-92⁶⁸. Among the three regions, Zhejiang and Hubei's trade performances were outstanding⁶⁹ (see Table 3.14 and Figure 3.3). In volume terms, China's exports increased from 9.8 billion US Dollars in 1973 to 13.3 billion US Dollars in 1978, and then to 76.7 billion US Dollars by 1992. This signifies an increase of a factor of 1.4 for the pre-reform period, and a factor of 5.8 for the post-1978 period. On the eve of reform, China was ranked the thirty-second in terms of trade turnover. By 1993 it became the world's eleventh largest trading nation. In the process its share of world trade more than doubled⁷⁰. The influence of foreign trade on China's domestic economy was greatly enhanced. The ratio of foreign trade to GNP, which was 11.6 per cent in 1973, increased

⁶⁶ Stages in which changes in such an attitude and practice occurred are spelled out in Chapter 4.

⁶⁷ See Nolan and Dong (1990, 19).

⁶⁸ It should be noted that Shanghai's poor performance indicated by the negative growth rates for the 1973-78 period mainly reflects a shift in the export accounting framework associated with the change in export institutions of the country. During the early years of the 1970s (until 1977) Shanghai remained one of the major ports which had authority to handle international business directly. Exports and imports of a few inland regions were administered by Shanghai. But this special status of the city changed in late 1970s with the preparation and implementation of the opening policy.

⁶⁹ Zhejiang's high growth rate of trade during the entire period is in part due to initial low level of involvement in international trade rather than merely an actual good performance *per se*.

⁷⁰ See Panel D, Table 3.15.

to 21 per cent in 1992, indicating improved linkages of the domestic economy with international markets.

These impressive gains can be attributed to the improved domestic efficiency of resource allocation resulting from foreign trade reforms and changed domestic supply conditions as well as emerging international opportunities.

Foreign trade reform, the main topic to be discussed in Chapter 4, has contributed to the dramatic expansion and accelerated growth of foreign trade observed over the post-reform era in at least two ways. First, the decentralisation of foreign trading rights and related reform measures substantially increased enterprises' autonomy in decision-making and thus enhanced their capacities to respond more rationally to the changing international market situation. In addition, repeated attempts since the early 1980s to devalue the domestic currency allied with the domestic price reform substantially reduced the anti-export bias inherent in the traditional foreign trade regime and hence stimulated exports.

China's efforts towards internationalisation were facilitated by the changing international economic environment in the 1980s. Two aspects were essential. First, increasing labour scarcity and huge structural adjustments in Japan, Korea, Hong Kong and Taiwan, China, which were observed in the second half of the 1980s, facilitated the realisation of the potentially large gains from specialising in producing and trading labour-intensive goods, in exchange for goods embodying high proportions of capital and technology. Secondly, the realisation of potential gains was facilitated by China's rapid economic integration with Hong Kong, Macao and Taiwan after liberalisation of Taiwan's policies on contact with the mainland from 1987. Over the post-reform period, Hong Kong and Macao have provided the primary channels that connect the enterprises of the mainland, particularly of Guangdong province with world markets. The mainland in turn provided an indispensable resource warehouse for Hong Kong's industrial

**Table 3.14 Growth of Trade: China
and Selected Regions (1973-92)**

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Source:- Computed from:
State Statistics Bureau (1993a)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1993; 1994)
Shanghai Statistics Bureau (1992)
SYECEB (1993)

Note:- Based on constant 1987 US dollars

Table 3.15 Trade Characteristics: China and Selected Regions (1972-92)

Please see print copy for image

Source:- Computed from:
State Statistics Bureau (1993a)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1994)
Shanghai Statistic Bureau (1994)
IMF Direction of Trade Statistics 1985, 1990, 1992, September 1993 and June 1994
IMF International Financial Statistics 1979

Note:- n.a. not available

development in the 1980s and more recently has served as the manufacturing base in the emerging bilateral pattern of labour division. Besides the phenomenal growth of two-

way trade between Hong Kong and the mainland, other forms of economic cooperation comprising investment developed rapidly.

The growth acceleration and expansion of foreign trade observed over the post-reform period was primarily fuelled by the outstanding performance of the nonstate sector comprising TWEs and foreign-funded enterprises⁷¹. TWEs have been one of the most important sectors linking the rural areas to world markets⁷². The results presented in Table 3.16 indicate the rapid expansion of TWEs exports and their importance to China's foreign trade⁷³. In the 1984-85 period, TWEs earned only US\$ 2.38 billion, while the recorded export earnings of TWEs were about US\$ 29.4 billion for 1993. The share of exports by TWEs in the national export earnings, which accounted for only 4.5 per cent of total export earnings in 1984 and 1985, had risen to 31 per cent by 1993. This implies that TWEs exports grew at an average annual rate of about 32 per cent for the entire period 1984-93. The regional picture has shown significant variations, reflecting the fact that the proportion of TWEs in coastal regions (Zhejiang and Shanghai) that were closely involved in international trade was much higher than average. According to Chen and Tan (1994, 22), in 1992 some 92 per cent of TWEs export supplies came from the ten coastal provinces in East China.

The first initiative to internationalise the rural economy in the post-Mao era was made in 1978 in Guangdong, when the authorities began to redirect Guangdong's rural production towards serving Hong Kong's market. However the first nation-wide effort to link the rural economy with the international market was not seen until 1984 when Central Document No.4 (1984) redefined the status of rural industry in the economy. Subsequent rapid development in integrating the rural economy with the export sector

⁷¹ Due to lack of the necessary data we will focus only on TWEs.

⁷² See Findlay and Watson (1992), and Ling and Du (1990).

⁷³ The breakdown of foreign exchange earnings for TWEs was available from 1985. But such disaggregated data began to be released for individual regions only after 1987.

was predominantly due to the development of the open policy and the adoption of export-oriented strategy in the coastal regions⁷⁴. The central government, as part of

**Table 3.16 Foreign Exchange Earnings from TWEs:
China and Selected Regions (selected years)**

Please see print copy for image

Source:- Computed from:
State Statistics Bureau (1993a)
Department of Township Enterprises (1993; 1994)
MCTEEB (1991)
Zhejiang Statistics Bureau (1994)

Note:- ® Denoted in Mill. of US dollars
© Total export receipts of the country

export-oriented strategy applied to the coastal provinces in China, implemented the policy of "trade-industry-agriculture integration" in the mid-1980s. The main purpose was to open the coastal rural areas to international competition so as to enhance rural industrialisation. TWEs in the coastal regions responded quickly and actively to this policy, due to low labour costs, flexible management mechanisms, easy adaptation to market demands, and the geographic proximity and cultural and linguistic similarities they shared with their counterparts in Hong Kong, Macao and Taiwan. They began to perceive internationalisation as either a way to avoid domestic competition or an effective means of specialising in industries where production would employ labour

⁷⁴ See Chapter 4 for an exposition of the development of the open policy and trade strategy.

intensively. As a result of the export campaign in the mid-1980s, TWEs in the coastal regions suddenly emerged as a new force in expanding exports.

3.5.2 Trade with Main Partners

Another striking aspect of China's foreign trade is its diversification into new markets and orientation toward distant countries. By 1993, China had established various forms of bilateral economic and trade relations with more than 220 countries and regions⁷⁵. Panel C, Table 3.15, presents distributive shares of China's trade with its main partners. Several points are noteworthy. First, of all the partners that are represented, Hongkong is China's number one in terms of both exports and imports. In 1973, Hongkong accounted for 27.1 of China's exports and 2.7 per cent of China's imports from international markets. By 1992 the share of Hong Kong in both China's exports and imports has risen to some 44 and 25 per cent. Disregarding the yearly fluctuations, the findings indicate that a rapid expansion of two-way Hong Kong-China trade occurred after 1978. This increase in the relative importance of Hong Kong in China's foreign trade reflected, to a large extent, the growing integration of the two economies. A large portion of this increase was due to the rapid expansion of transit trade via Hong Kong to overseas. The re-export value of goods from the mainland via Hong Kong, which accounted for about 32 per cent of China's total exports to Hong Kong in 1979, increased to 50 per cent in 1985, and then jumped to a striking 86 per cent by 1990 (Ma and Sun, 1992, 2151). This dramatic change has in part reflected the boom in processing and assembling industrial activities in the coastal areas and in part the development of indirect trade on the two sides of the Strait via Hong Kong since 1987. Moreover, China's imports via Hong Kong and Macao also increased markedly after 1978, which changed the situation in which the bilateral trade was dominated by one-way trade- exports from China to Hong Kong (Panel C, Table 3.15).

⁷⁵ Wu Yi (1994).

Second, trade with Japan evolved rapidly following the normalisation of the Sino-Japan diplomatic relations in late 1972. In 1972, the total value of the two way trade was only approximately US\$ 1 billion. But it expanded to some US\$ 6.5 billion in 1978. By 1992, the trade value increased to over US\$ 20 billion (MCFTEB, 1992, 371). In relative terms, trade with Japan, following a big increase in the 1973-85 period, fell gradually after 1985, reflecting the adjusted marketing strategy deployed in the mid-1980s. China's exports to Japan, which accounted for over 14 per cent of the total in 1973, rose to over 20 per cent in 1985, but then dropped to 13.8 per cent by 1992. The import situation is quite similar. In 1978, China received over 28 per cent of its imports from Japan, but only 17 per cent in 1992. Despite the reduction in relative market shares, Japan remained China's second largest trade partner next only to Hong Kong in 1992. The dramatic expansion of bilateral trade between the two countries from the early 1970s reflected predominantly the sustained friendly political relationship and, to a lesser extent, the closer business ties between the two countries.

Third, trade with the United States underwent rapid growth during 1978-92. This was largely attributed to the establishment of Sino-US relations in 1979 and China's commitment to market orientation as well as trade promotions by both parties. In 1973, China's exports to the United States were negligible. But by 1992, United States had become the third largest export market after Hongkong and Japan⁷⁶. Finally, China's sales to other industrial countries over the reform period generally remained stable, but purchases from this group declined⁷⁷.

⁷⁶ In reviewing China's trade with USA, we should be aware of the fact that a significant portion of China's sales to Hong Kong has been re-exported to the United States.

⁷⁷ According to IMF's Direction of Trade Statistics September 1993 and June 1994, China's exports to and imports from industrialised countries reached a new high in 1993, with the exports and imports both accounting for over 50 per cent of China's totals.

3.5.3 Changes in the Commodity Composition of Trade

Now we turn to another significant aspect of external sector, namely, the composition of trade. The pertinent data on trade for the country are presented in Table 3.17. In the composition of exports a noticeable feature is the movement in the shares of manufactures and primary products. In 1975, primary products provided 57 per cent of China's export receipts; while manufactured products accounted for just 43 per cent of the total value of exports. But by 1991 the share of primary products decreased to only 22 per cent and that of manufactured goods shot up to nearly 78 per cent. This change in general reflected the changing pattern of China's comparative advantages in the process of industrialisation. It reflected in part the policy orientation of the State. Beginning from the late 1970s and through to the end of the 1980s, the Chinese government campaigned strenuously for light industrial development which was much neglected during the pre-reform period. The policy objective, in retrospect, was to increase supplies of consumer goods to meet the growing domestic market demand. The initial impact of this effort on the light industrial sector was to increase the share of its output in the industrial total from 43 per cent to over 47 per cent by 1984. Its long-term effects were translated into steady increases in the share of light industrial and textile exports, as indicated in Panel A, Table 3.17. In the mid-1980s, the government began a strong push towards improvement of the export structures⁷⁸. The essence of this drive was to enhance the sophistication of production. The dramatic reverse movement in the share of both primary products and manufactures observed during the post-1984 period was largely a result of this effort.

⁷⁸ See Wang Shaoxi (1994, Ch 4) and Wang Shaoxi *et al.* (1991, Ch 4) for a detailed discussion.

**Table 3.17 Shifts in the Commodity Composition
of Trade in China (selected years)**

Please see print copy for image



Source:- ACFERTEB (1992)
- Carl Riskin (1987)

Looking at individual products, within primary products, foodstuffs, mineral fuels and non-food items, fell sharply⁷⁹, while other items remained almost steady. Although a long-run decline in the relative importance of agricultural exports is inevitable in the process of economic development⁸⁰, this trend was undoubtedly given a strong push by export product policies. Of manufactures, the share of chemicals and products classified

⁷⁹ The sharp decline in the share of mineral fuels after 1984 was essentially an outcome of government policy to reduce the export of petroleum.

⁸⁰ See Anderson (1990).

by material (mainly semi-manufactured goods including textiles) has slightly changed, while the share of machinery and transport equipment, miscellaneous manufactures (including shoes, textile products such as garments) and non-specified categories has increased significantly. This marked increase was primarily supported by the advancement of the machinery, textile and garments and other relevant industries. It reflected in part the deliberate intent of the State in mid-1985 to enhance the structure of exports through implementing the Export Commodity Strategy so that much more gains could be derived from export activities⁸¹. To stimulate exports of more sophisticated manufactures, the government provided a number of favourable fiscal incentives including the provision of preferential domestic tax and foreign exchange retention rates⁸². These policy arrangements effectively encouraged the production and export of manufactures. In short, the shifts in the structures of China's commodity exports reflected the changing pattern of China's comparative advantage, and the efforts of the central government to enhance industrialisation and internationalisation throughout the 1980s and the early 1990s.

Marked shifts also occurred in the composition of imports. The share of imported primary products fell from an initial 28 per cent in 1975 to only 17 per cent by 1991. The share of imported manufactures in contrast has increased steadily from 72 per cent in 1975 to 83 per cent by 1991. This change in the composition of imports can be generally explained by China's relative abundance of natural resources and the much improved performance of the agricultural sector over this period.

Two points are worth mentioning about the structural shifts that occurred within the primary and manufactured imports. First, the share of foodstuffs, non-food items (non-food crude materials excluding fuels) dropped markedly after 1980, although they

⁸¹ See Note 79.

⁸² See Chapter 4.

continued to be the two largest components of imports. This significant decline in part reflected the improved performance of the agricultural sector and primary industries. It also reflected a major adjustment in foreign trade planning⁸³. A second point is the import of machinery and transport equipment, which advanced steadily over the 1975-91 period. This movement can be attributed to a continuing reliance of the economy on imported machinery and technology⁸⁴, and increased spending on infrastructure in transport and communications.

3.6 The Growth of State-Owned Production

Since the outset of China's economic reforms, substantial efforts have been made to improve the performance of the SOE sector. Through the 1980s and the early 1990s, the central theme of reform in the SOE sector was progressively to increase the managerial autonomy of SOEs⁸⁵. These reform efforts confronted the state firms with increased competition and growing financial pressures that were associated with a gradual and as yet incomplete shift from a planned system to a functioning market economy⁸⁶ (Rawski,

⁸³ The decline in the share of imported foodstuffs and non-food items over the post-1980 period was paralleled by a reduction in the share of exports of these two items. This result was partially due to an adjustment in national foreign trade planning.

⁸⁴ To import foreign machinery and technology has always been a major element of China's import policy. Since the reform began in the late 1970s, China has placed even a greater emphasis on the import of advanced machinery and technology. For a review of the evolution of China's import trade and policies towards imports, see Liu Xiangdong *et al.* (1993, 43-48), Wang Shaoxi (1994, Ch. 5) for a detailed discussion.

⁸⁵ See Section 4.2, Chapter 4, Tidrick and Chen (1987), Bell *et al.* (1993), Wanda Tseng *et al.* (1994), and also Jefferson and Rawski (1994) for an extensive survey of this issue.

⁸⁶ A survey of state-owned enterprises shows that during the period 1980-89, the share of material inputs purchased through the market rose from 32 to 59 per cent (Dong, 1992). The same survey indicates that the share of output sold on the market rising from 49 to 60 per cent. More recently the share of output sold through markets exceeds 80 per cent (see Rawski, 1994, 272).

1994; Byrd, 1991). The resulting benefits have manifested themselves through improved efficiency and accelerated output growth⁸⁷.

Notwithstanding the above achievements, growth in the SOE sector lagged far behind the nonstate sector, particularly TWEs. This is apparent from both the changes in output and the average annual growth rates⁸⁸. Over the entire post-reform period, the output value of SOEs increased from an initial 479.3 billion yuan to 1,221.5 billion yuan by 1992, a rise of a factor of 2.6. This is a much smaller increase than for TWEs, whose output went up by a factor of 15.7 over the same period. Real output of the SOE sector grew at an average annual rate of 6.4 per cent for the whole span, and 5.3 and 6.9 per cent for the two sub-periods (1978-85; 1985-92), which is much slower than TWEs. A similar pattern is observed in the three regions. With the exception of Shanghai, the SOE sector in the two provinces registered a higher growth rate than the country average during the post-reform period. The SOE sector in the three regions grew much slower than TWEs, when either observed for changes in real output or in terms of annual growth rates. For example, between 1978 and 1992, real output of SOEs in Zhejiang increased by a factor of 7.9, compared with a rise of a factor of 24.6 in real output of TWEs. The SOE sector in this province grew at an average annual rate of 9.1 per cent against an average annual growth rate of 25.7 per cent in TWEs.

While the SOE sector remains important in the Chinese economy, the relative size of this sector in the economy has declined sharply since the onset of reforms in the late 1970s. In 1978, more than three quarters of the gross value of industrial output was accounted for by SOEs; by 1992, the share of the SOE sector had plunged to about one half (Panel B, Table 3.18). The change in the share of SOEs of the three regions reflects the same pattern. Of the three subeconomies, there were two regions, namely, Zhejiang and Shanghai, which experienced a greater decline in the share of SOEs than the

⁸⁷ See Jefferson and Singh (1993).

⁸⁸ See Table 3.18.

national average. This has in part reflected a greater effort towards developing TWEs in these regions than others. It has also reflected their privileged position in the process of implementing the spatial strategy⁸⁹.

Table 3.18 Trends: Output and Growth of State-Owned Enterprises, China and Selected Regions (1978-92)

Please see print copy for image



Source:- Computed from:
State Statistics Bureau (1993a)
Hubei Statistics Bureau (1993)
Zhejiang Statistics Bureau (1994)
Shanghai Statistics Bureau (1993)
Department of Township Enterprises (1993)

Note:- *1986
⊕1978-86
©1986-92
I: Output Value of SOEs
II: Gross output value of TWEs
Based on 1987 prices

⁸⁹ See Section 4.2, Chapter 4 for a brief review of the opening strategy.

Against the background of its plunging share of industrial output, the SOE sector as a whole remains cumbersome and inefficient⁹⁰. The continuing weakness in the financial performance of the SOEs underlines deep structural problems. It is increasingly recognised that unless effective measures are taken to transform the structure of the SOE sector, the problem of SOEs could retard the process of reform and dampen economic growth prospects in coming years.

There are also other reasons for the inefficiency of SOEs. The first reason has been the lack of financial pressures as a result of access to soft funding. Despite the strenuous efforts that have been taken- since the start of the full-scale urban reform- to tight the budget constraint for SOEs, in general the SOEs have continued to face soft constraints⁹¹.

A second reason for the continuing problems with SOEs is associated with rigidity of their management. In many ways the SOEs remain the appendage of the state agencies despite the progressive decentralisation drives launched through the 1980s and the early 1990s. The rigid mechanism has been transferred into inferior performance when the SOEs are brought to face tougher competition from the nonstate sector, from imported products, and from innovative rivals within the SOE sector (Naughton, 1992).

3.7 Conclusion

The changing growth pattern and inter-sectoral structures as observed in China over the post-reform period are in general consistent with expectations based on the theories summarised in Chapter 2. There are three aspects which are most pertinent in explaining

⁹⁰ See Wang Yi (1995), Wanda Tseng *et al.* (1994, 41).

⁹¹ This has often occurred due to a concern for political and social stability on the part of the state. To a large extent, the recurrent inflation that has been observed in China recent years reflects the state policy to provide cheap credit to cover the huge losses sustained by SOEs.

the growth performance of the Chinese economy, namely, the continued expansion of foreign trade, high savings and investment including massive foreign capital inflows, and the rise of TWEs. In each of these areas, government policies have played a crucial role ranging from initiating the process to sustaining and maintaining the momentum.

China's record economic performance has largely sprung from the open-to-the-outside-world policy⁹². Since the open policy was implemented in the late 1970s, China's external trade has continued to grow vigorously. The continued expansion of trade has not only enhanced China's role in the world economy but also exerted great effects on the domestic economy. These effects are reflected not only in the accrual of static gains to the economy through domestic resource allocation arising from trade activities, but also in the form of dynamic stimuli. One part of the dynamic gains may have arisen from larger total market available when exports were not encouraged, allowing for both increased capacity utilisation and economies of scale arising from specialisation. Another part may have been derived from the possible sectoral linkages and beneficial spillovers of trade.

The strong economic growth observed in the post-reform era in part reflects the dynamism of the nonstate sector, comprising TWEs and foreign-investment enterprises. The nonstate sector has been growing dynamically and much more rapidly than SOEs. While the detailed implications for economic policy of the expanding role of the nonstate sector are yet to be explored, we do have a fair understanding about the major factors that have underlied the growth progress of this sector. The dramatic transformation in rural institutions from late 1978, the restructuring of industries in the 1980s and changing market conditions explain much of the growth of TWEs, whereas

⁹² See Chapter 4 for a detailed discussion of changes that occurred in trade and growth policy after 1979.

the rapid development in foreign-funded enterprises is largely attributed to the evolving policy environment following the implementation of the open policy⁹³.

The nonstate sector has contributed to the growth of the economy in at least two important ways. First, TWEs have fostered and boosted rural industrialisation and urbanisation, which in return generated massive investment demand and demand for consumer goods and materials for industrial inputs, thereby stimulating growth of the agricultural and industrial sectors, while foreign-funded enterprises have been important channels through which China acquires technology, skills, managerial expertise and market access which are needed in the process of economic development. Second, import of strategic inputs and exports from the nonstate sector have played an important role in complimenting the dynamics of domestic demand and supply. The growing importance of TWEs and foreign-funded enterprises has reflected their flexible management mechanisms and easy adaptiveness to the changing international market situation as well as high likelihood of capitalising on China's comparative advantage.

What we have observed in Chapter 3 are essentially effects of changes that occurred in economic institutions and policies after the late 1970s. These institutional and policy changes are discussed in detail in Chapter 4.

⁹³ The creation of special economic zones (SEZs) in the late 1979s and subsequent development in the spatial open strategy constitute the most important changes in government policies. For a detailed discussion see Chapter 4.

CHAPTER 4

ECONOMIC REFORMS AND TRADE LIBERALISATION

4.1 Introduction

In Chapter 3, an investigation of the growth and structural changes in China's economy from the early 1970s to the early 1990s explored linkages between structural shifts and policy instruments with respect to the growth of GNP and some of its major components. Rapid structural transformation was preceded and/or accompanied by changes in policy parameters and institutional settings which caused the emergence of China as both a fast-growing economy and a major participant in the international economy through the 1980s and early 1990s¹.

The purpose of this chapter is to examine some of the most important reforms in foreign trade that were endorsed after 1978. Selecting trade as the focus in part reflects the general theme of this study, and means that other aspects of reform are approached from the perspective of their effects on and their relation to trade. Although the concern here is not so much with the analysis of the effects of the policy changes on the growth of the economy, the whole discussion proceeds with an implicit hypothesis that those changes have over the entire post-reform period significantly contributed to the substantial increases in the magnitude of both trade and national output. Before concentrating on trade reforms, we give a brief, selective account of China's wide-ranging economic reform efforts, projecting a complete picture of the reform setting in which foreign trade policy reforms were instituted. We provide a detailed investigation of some perspectives of the trade reform while looking at others in a more subsidiary light. The reflection of the regional dimension with respect to policy reforms is limited

¹ See Section 3.5 of Chapter 3.

due to the unified nature of the policy aspects selected and the direction in which the discussion was directed.

This chapter is organised into six sections. The next section (4.2) overviews 'economic reform', which is defined as the set of policies and institutional changes sanctioned by the state, including the 'opening to the outside world', introduced or announced as goals during the period of the political ascendancy of the coalition built and led by Deng Xiaoping. The third section (4.3) reviews conditions before trade reforms were implemented. A fourth section (4.4) provides an analysis of the restructuring of the foreign trade system. The focal point will be on tracing out the sequences of the reforms and the bearing of the reform efforts on economic behaviour and the performance of trade and the domestic economy, in the light of the findings presented in Chapter 3. Section 4.5 deals with the contractual responsibility system. Our purpose here is to briefly evaluate the role of such a transitional arrangement. The final section (4.6) draws tentative conclusions about the process of change and reform that will be necessary for rapid economic growth to be sustained in a transition period.

4.2 An Overview of the Economic Reform Process

4.2.1 Restructuring of the Economic Administrative System

The economic system that formerly existed in China was basically modelled after that of the Soviet Union during the early period after the creation of the People's Republic. It was a highly centralised system in which planning was carried out by administrative measures without any attention being given to market mechanisms. Since decision-making rested with the state, enterprises enjoyed few independent managerial rights and became simply appendages of state administrative agencies at different levels.

The industrial sector was dominated in the pre-reform period by state-owned enterprises (SOEs) of various types². There was a substantial nonstate sector of collective enterprises, which grew rapidly in the 1970s with the expansion of rural commune-and brigade-run enterprises. Both SOEs and nonstate enterprises were under the hierarchical supervision of at least one government supervisory agency- industrial bureaus at provincial, municipal, and county levels or industrial ministries at the central level. Many firms were even under "multiheaded leadership" of more than one level of government. All significant variables of the enterprises, such as inputs, output levels, product mix were all determined by the planning authorities. In the early 1970s a massive decentralisation of the administrative supervision system for SOEs was instituted. Consequently, most enterprises directly under production ministries were put under provincial or local control. Combined with the rapid growth of small-scale rural industry, this meant that administrative supervision of industrial enterprises became somewhat decentralised and fragmented along territorial lines. However, enterprise autonomy vis-a-vis government supervisory agencies was extremely limited. Such a decentralising drive did not translate into greater scope for independent decision making.

The restrictive administrative nature of control over resource allocation eliminated the role of the market mechanism in allocating productive resources and distributing goods³. Prices were officially fixed to ensure financial compliance with the planned

² SOEs basically took two forms, either 'ownership by the people' (that is , State ownership) or 'collective ownership' (ownership by some group).

³ Enterprises did not have the right to sell their products on the market. Rather, these products were purchased and sold by state-owned commercial departments, material departments and foreign trade corporations. Prior to the reform, around 80 per cent of the national gross value of industrial output, which originated overwhelmingly from the large and medium-scale industries, was a result of the central planning system. This includes both producer and consumer goods as well as outputs earmarked for export. Non-industrial living necessities, notably, grain, cotton, pork and edible oil, were also subject to balancing and rationing one way or the other (Yak Yeow Kueh and Zhao Renwei, 1990, 18).

physical conditions over long periods of time. The prices of most important industrial producer goods remained constant between 1967, when a price freeze was imposed during the Cultural Revolution, and the late 1970s or early 1980s. In any case, prices did not serve as the primary guide for resource allocation.

The same situation existed in the system of collective ownership of the rural people's communes⁴, which functioned according to the principle of three-level ownership, namely, ownership by (1) the commune, (2) the production brigade and (3) the production team. The production teams were deprived of the decision-making power regarding what they were going to plant and how they were going to carry out the planting. These matters were determined by their superior authorities. With respect to marketing, the state compulsory procurement authority purchased almost all agricultural produce at fixed prices. In the immediate pre-reform period, over 90 per cent of the non-farm sector's purchases of farm produce were covered by one form or another of compulsory sale (State Statistics Bureau, 1985, 479), and a mere 4 per cent of farm sector marketing to the non-farm sector went through nonstate channels. At the prices paid by the state, there was, for most farm products, a higher income to be earned by selling to the 'free' market than to the state.

The serious disadvantages and pervasive inefficiency inherent in the previous economic structure necessitated a massive reform to invigorate the domestic economy. Opening the economy to the outside world was implemented at the end of 1978, by the Third Plenum of the 11th Central Committee of the Chinese Communist Party. Political changes of course played a crucial role particularly in determining the timing of the reform. The death of Mao Zedong and downfall of the Gang of Four in 1976 and subsequent political developments had an important impact but will not be discussed here.

⁴ See Zhu Shoulian (1992, 3), and also Nolan and Dong (1990, 4-6).

The reform programme was first applied to the agricultural sector, directed at transforming China's rural institutions which, for over two decades, had been based on a species of collective farm- the rural people's commune. The introduction of a more decentralised and market-oriented family contract system⁵, which began in the late 1970s, and accelerated in the early 1980s, changed the essential aspects of the people's commune⁶. To stimulate agricultural output, changes also occurred in the marketing of farm produce⁷ and the relative prices of farm and non-farm products⁸ after 1978. The

⁵ In general, the contract system existed in three forms, namely, (1) contracting output to the group (*bao chan dao zu*); (2) contracting output to the household (*bao chan dao hu*); and (3) contracting work to the household (*bao gan dao hu*). The first two forms were in practice in the early period of the reform. Under such arrangements, the group (*zu*) or household (*hu*) contracted with the production team to fulfill a specified amount of farm output (to be handed over the team) for a fixed land area, with current inputs fixed and provided by the team. In return for fulfilling the contracted task the group or household was given an agreed workpoint entitlement (with proportionate reductions in workpoints for underfulfilment of the contract). Any output in excess of the contract could be retained by the group or the household. The later development of the system (after 1983) was characterised by a full-scale return to family farming. 'Contracting work to the household' became almost a universal practice. By the end of 1983, over 94 per cent of peasant households in China were performing under such an arrangement (State Statistics Bureau, 1984, 131). Land division was instituted for the operation of this system. By 1983, virtually all collective-owned farmland had been distributed to individual farm households for operation. (Nolan and Dong, 1989, 9).

⁶ The people's commune system consisted of two key elements. One was the integration of political power and economic management; the second was (1) public ownership of agrarian land and other means of production, (2) organising labour into a communal work force. With the introduction of the contracting system, the land ownership and utilisation rights, as well as non-land means of production, were separated and the household was turned into the unit of farm management.

⁷ The range of produce subject to state procurement was reduced and peasants were allowed freely to dispose of above-quotas produce. In the mid-1980s, dramatic changes occurred to the compulsory procurement which had been in operation since the early 1950s. The mandatory state purchases of grain and cotton were replaced with a more voluntary procurement contract system. For products other than grain and cotton which were still compulsorily purchased in one form or another, the old system was to be gradually abolished at different speeds for different products and in different areas; and replaced by a system under which products were freely brought to the market, freely exchanged and quality was reflected in price.

above institutional and non-institutional reforms greatly boosted labour productivity and agricultural output in the farm sector⁹. They also opened the way for the development of township enterprises (TWEs)¹⁰.

In the urban setting, reform experimentation began long before the major pronouncement on urban reform by the Twelfth Central Committee at its Third Plenum on October 20, 1984¹¹. The set of reforms initially promulgated in the late 1970s included: (1) an increase in the degree of enterprise decision-making autonomy in production and, to a lesser extent, in investment; (2) reinstitution of financial incentives at the enterprise and individual levels; and (3) expansion of the role of market mechanism in the allocation of industrial goods and corresponding reductions in the role of planning and administrative allocation¹². The components of this initial reform package are closely interrelated and mutually reinforcing. Considerable progress was made in achieving both (2) and (3), and initially much less with (1). A renewed effort since 1984, however, has been on implementing (1), which is a cornerstone required for other reforms to be meaningful.

⁸ During the 1966-1976, the government procurement purchase prices of agricultural products remained basically the same, while the prices of manufactured products underwent some increases. In light of this situation, between 1979 and 1984, the price for major farm products rose 20 per cent for cereals and 50 per cent for over-quota produce. An average price rise of 24.8 per cent for another 18 kinds of major farm products benefited the farmers by more than 10,800 million yuan. By 1983, the average level of the purchase price for farm produce had been increased by 47.7 per cent over 1978, with an annual average increase of 8.1 per cent (Du Mengkun, 1992, 126).

⁹ See Zhou Shulian (1992, 6).

¹⁰ See Chapter 3 for an extended discussion.

¹¹ Economic reforms in China, as a whole, have been haphazard, often seemingly chaotic, and highly ad hoc in their implementation. There has been no overall reform blueprint or plan, and specific reform in particular spheres of the economic system often do not appear to have been planned or thought out in any detail. The whole process has been of the nature of experimentation.

¹² For a detailed documentation of the changes in the role of market mechanism in resource allocation, see Byrd (1983; 1991).

As early as October 1978, experiments with reforms in SOEs got off the ground in Sichuan province. Early reform measures included the institution of an enterprise profit retention programme and reinstatement of the workers' bonus scheme. Most enterprises were allowed to retain a higher proportion of their depreciation funds as well. The bonus scheme for employees, restoration of which had begun in 1977-78, became virtually universal by 1979. By the end of 1980, 5,777 enterprises participated in the scheme in 28 provinces, showing varying degrees of output and profit increases. Of the overall profit earned in 1980, 90 per cent was turned over to the state and 10 per cent was retained by the enterprises as production development funds, collective welfare funds and bonuses (Yuan Shouqi, 1988, 13). The experimentation was broadened subsequently with the creation of a number of policies grouped together under the concept of economic responsibility, including *Profit Quotas Scheme*, *Profit Tax System*, *Factory Director Responsibility System*, and the *Contractual Responsibility System*. The profit quotas scheme, devised in 1981, specified fixed targets of profits for enterprises to turn over to the state, and permitted them to enjoy high retention rates for the above-quota amount. Since the quotas, to a large extent, were based on negotiations between firms and their supervisory agencies and could be adjusted on a yearly basis or even within the year, this scheme provided considerable flexibility in the face of market or other shocks. But it led to a haemorrhage of government revenue, because enterprises and government agencies could effectively conspire to reduce flows of profits to the public finance system.

The profit quotas scheme was phased out in favour of a profit tax system in 1983. Instead of claiming profits, the central government put a claim on enterprise revenues through a direct tax. Under this system enterprises paid a 55 per cent tax on total income, retaining the rest for production development, innovation, and raising workers' wages. In addition, the state stopped financial allocations to the firms, forcing them to turn to banks for capital and to accumulate funds through enterprise profit retention. The uniformity of the tax, since applying to all companies regardless of their differing sizes,

products and resource scarcities, acted to distort national economic priorities, and thus led to some undesired results. To compensate for this dysfunction, a second programme of tax system reform was endorsed by the State Council in October 1984¹³.

The system of factory director responsibility was trialled in 1984 with the purpose of delineating and strengthening the position of the director as the primary operational decision maker of the enterprise. While early reforms had attempted to give enterprises greater decision-making powers, the question of what person or organisational structure within the firm would exercise this authority remained unsolved. The Party Committee, headed by its Secretary, had been the supreme decision-making entity in the pre-reform period. After 1984, with the implementation of this package, the general tendency was for the factory director to assume the role of ultimate decision maker and representative of the enterprise in dealings with outside agencies. This trend culminated with promulgation of the "Regulations on the Work of Factory Directors in State-Owned Industrial Enterprises" in September 1986, along with companion regulations on the respective roles of enterprises' Party Committee and Workers' Representative Assembly.

From 1986 to 1988, Contractual responsibility systems were practised under the forms of *Leasing*, the *Contractual Management Responsibility System*, the *Enterprise Management Responsibility System*, and the *Asset Management Responsibility System*. These reform measures moved one step closer to the issue of separating enterprise management from ownership, which was highlighted for the first time in the October 1984 Document: "Decision of the Central Committee of the Communist Party of China on the Reform of Economic Structure"¹⁴. While the state retained ownership of the enterprise sector, it contracted with individual firms for a given level of production, for a specific amount of profit to be turned over to the state, and for technical innovation.

¹³ For a review of this new tax system, see Aram and Wang Xiaoli (1991, 33).

¹⁴ China's Economic Structure Reform- Decision of the CPC Central Committee. Beijing: Foreign Languages Press. 1984.

An eminent feature of this measure was a sharp departure from earlier schemes through an involvement of a contract-based relationship between the enterprise or its manager and the supervisory agency with jurisdiction over the firm (Byrd, 1991, 13). By 1988, about 80 per cent of large and medium-sized enterprises operated under some form of the contractual system (Yuan Shouqi, 1988, 15).

Though contractual responsibility systems provided some ad hoc prescriptions to the problems of earlier reform attempts and encouraged the redefining of the state-enterprise relationship, they could not solve some problems which were inherent in the public ownership system. By 1988-89, issues related to the restructuring of state ownership had become the subject of intense scrutiny. Various kinds of shareholding systems for SOEs had earlier been experimented with in a limited way. SOEs increasingly resorted to issuance of capital market instruments. But subsequently the stock system came to be viewed also as a means of changing ownership and the exercise of ownership functions with respect to state enterprises. Since the early 1990s, with introduction of reinforced market-oriented attempts, an increased attention has been given to tackling the issue of the state ownership system for the large- and medium-sized SOEs¹⁵.

4.2.2. Open Policy and Internationalisation

China's adoption of the open-door policy in late 1978 was a sharp departure from the autarchic development strategy of self-reliance pursued over the previous decades. Soon after the communist take-over of political power in 1949, China embarked on pursuing the inwardly-oriented development strategy¹⁶. International markets were regarded as

¹⁵ In a new round of industrial reform that was initiated in 1993, the issue of the governance structure and ownership and management rights of SOEs has become the focus. See Wanda Tseng *et al.* (1994, 42-45) for a detailed discussion.

¹⁶ China's choice of this strategy was shaped by a number of factors. Apart from the ideological influence from the Soviet Union, the US-led United Nations trade embargo against China in the early 1950s was an important factor, which prevented normal development of ties with the capitalist world.

economically anarchic systems from which China's domestic economy should be isolated. Accordingly, foreign trade was monopolised by the state and enterprises were cut off from direct contact with the international economy. Exports were not seen by the state as a source of demand stimulus but rather as a means of earning the foreign exchange to finance planned imports. The results of China's trade performance were a perfect reflection of this strategy. Over the whole autarchic period from the early 1950s, China's share of world exports fell dramatically from 1.23 per cent in 1953 to 0.75 per cent in 1978 (MCFTEB, 1992, 39)¹⁷.

In the early 1970s, the international economic environment changed in favour of China following a series of political events¹⁸. In China's initial turn toward the outside world, China's trade jumped sharply beginning in 1972¹⁹. On the ideological front, progress was also emerging. During the mid-1970s, Deng Xiaoping took the lead in criticising the policy of economic isolation and, especially in his contribution to the 1975 Twenty Points document, emphasised the need for export promotion and

This made China turn to the Soviet Union for economic aid and technical assistance, whilst keeping indirect trade contact with the West. After the Sino-Soviet split in the early 1960s, China became isolated. The much-publicised policy of self-reliance made a virtue out of necessity and was more in line with Mao's ideology. At a pragmatic level, China re-oriented her trade from the Soviet bloc to the industrialised countries.

¹⁷ See Section 3.5, Chapter 3 for a review of the trade performance before the reform.

¹⁸ These events include: (1) The restoration of China's membership in the United Nations in 1972; (2) the ending of the U.S. trade embargo following the historic trip of Ex President Richard Nixon to China in February 1972; and (3) the normalisation of Sino-Japan diplomatic relations in September 1972.

¹⁹ In the early 1970s, even before the death of Mao Zedong, China dramatically increased imports of industrial supplies and foreign technology, particularly whole plants, and expanded the export of agricultural goods, raw materials, and manufactured goods in order to pay for them. By 1975 the country's total trade had reached nearly US\$ 15 billion, an increase of more than 250 per cent in only six years; and exports rose to 5 per cent of the national output, the highest level in the history of the People's Republic. By 1978, China's trade turnover reached 20.6 billion U. S. dollars, exports 9.7 billion U.S. dollars, constituting an increase of a factor of 3.5 and 3.3 respectively over 1970. Imports increased by a factor of 3.7 over 1970. The sharp increase in imports was due to a large scale importation of industrial plants from the western countries (Ma and Sun, 1992, 2141).

suggested allowing co-operative ventures with foreigners (Pomfret, 1991, 3). The proposals became the targets of criticism from the Gang of Four in their campaign against Deng in 1975. After the downfall of the Gang of Four in 1976, Hua Guofeng criticised the 'close door' policy and initiated a debate about the need to import technology. To Hua, exports were needed to pay for imported industrial plant although he did not consider the need to permit foreign investment (Pomfret, 1991, 3). In 1977-78, Hua Guofeng set in motion a "new leap forward" which was intended to transform China into a "great, powerful, and modern socialist country before the end of this century". His strategy, as set out in the statement of his ten-year development programme²⁰, was one of extensive growth emphasising higher levels of state investment, a massive programme of importing technology, heavy reliance on foreign loans and greater incentives in terms of higher urban wages. But Hua's unrealistic programme was short-lived due to neglect of inefficiency²¹, and was replaced by an alternative: the open-door policy emphasising balanced and intensive growth- growth through adaptation and diffusion of technology, especially foreign technology, in December 1978.

Trade strategy was immediately revised after the official announcement of opening to the outside world. Subsequent development of China's foreign trade and development strategy, which reflected changes in habits of thought and ideology, have gone through

²⁰ On Hua's long-term development plan, see Hua Guofeng (1978) "Unite and strive to build a modern, powerful socialist country," in: Documents of the first session of the Fifth National People's Congress of the People's Republic of China. Beijing: Foreign Languages Press. pp1-118.

²¹ Hua's economic programme did yield relatively high rates of growth. But, as with similar movements in the past, the cost of these achievements was high. The massive increase in imports was not matched by a concurrent increase in exports, and in 1978 China ran its largest trade deficit since the First Five-Year Plan (State Statistics Bureau, 1984, 26 & 395). The expansion of capital investment far exceeded that which the state's industrial resources could sustain and created acute bottlenecks of both consumption materials and capital goods (Harding, 1987, 56).

two distinctive stages²². The first stage (1978-87) distinguished itself by an explicit emphasis on the expansion of exports and enhancing the status of exporting industries²³. This constituted a dramatic shift from China's previous development strategy. However, the strategic thinking at this stage was limited to satisfying import demand for hard currencies through export expansion, rather than being directed at achieving economic growth and structural changes by means of international specialisation. This strategy, in many instances, was a variant of import substitution.

The second stage as of 1987 was guided by the decision of the central government to implement the strategy of developing an outward-oriented economy in the coastal areas²⁴. This new strategy was designed to explore international markets by taking advantage of favourable opportunities that occurred during the period of industrial

²² In adequately understanding the process of China's opening to the outside world, we should be fully aware of the evolution of ideological changes in terms of political and economic thinking and the impacts of these changes on the advancement of China's foreign trade and economic strategy. See Zhou Xiaochuan (1990) for a brief review of the issue. Another crucial aspect to be noted is the mutually-reinforcing nature of the open policy and the domestic reform drive. The opening-to-the-outside-world policy forced China to modify a rigid economic system to facilitate economic interaction with world markets. On the other hand, successful performance of foreign enterprises in China, and ideas and examples from the outside world, have had significant demonstration effects.

²³ Following its early decision to open China to the outside world in the late 1970s, in 1984 China announced the intention to actively explore both domestic and international markets and fully make use of both domestic and foreign resources (see the *Proclamation of the Third Plenum of the Twelfth Congress of CPC*). But the official attitude changed slightly following the worsening of the country's balance of payments position which resulted from overheating of the domestic economy in the mid-1980s. Thus, in the Proposal on the Seventh Five-year Plan, the central government seemed to have overemphasised the need to set up a number of export production bases and to impose stringent import control through planning measures but failed to call for further opening up and market-oriented reforms.

²⁴ In October 1987, the Thirteenth Communist Party Congress proclaimed the need for China to join the world economy through the utilisation of foreign capital, technology and raw materials and to develop labour-intensive industries in coastal areas for exporting. The following month, in a tour of Southern China, Zhao Ziyang announced the granting of provincial status to Hainan and greater autonomy to other coastal provinces. Hainan became the largest Special Economic Zone following Shenzhen, Zhuhai, Shantou and Xiamen, which were established in the late 1970s and early 1980s.

restructuring, as well as of the increase in demand and fluctuations in foreign exchange rates in the Western industrialised countries. It explicitly invoked the concept of international specialisation and linked domestic economic growth with international supply and demand conditions.

The theoretical justification for an outward-oriented strategy rests on two arguments (IBRD, 1988, 13). First, by adopting such a strategy, a country can benefit from maximising export revenues and thus increase the capacity to import. This is the direct benefit of opening up to trade. However, in the Chinese context, since internationally traded goods will necessarily represent a small portion of China's total output, the most important reason for adopting an outward-oriented strategy, therefore, is to derive the indirect benefits of a more open trading system, including the myriad of potential efficiency gains that enterprises could realise when they are in direct contact with buyers, suppliers and competitors. Hence, the rate of growth of export earnings is far less important than the extent of contacts that production enterprises and commercial units have with the outside world and the effectiveness of the diffusion of the information thus gained to other domestic enterprises.

Ideologically, implementing the outward-oriented strategy in coastal areas constituted a rejection of the argument that trade served as a means of satisfying residuals, an official endorsement for the theory of comparative advantage, and a recognition of the changing nature of comparative advantage. It also reflected an official confirmation and acceptance of the advantages of the strategy of an outward-oriented economy²⁵.

²⁵ Traditional Chinese economic theory was strongly-biased towards import substitution. Since the end of the 1970s, the successful performance of the four "dragons" in Asia had attracted attention from both economists and politicians the world over. They began to realise that some suspicions regarding outward orientation such as the belief that over-dependence on international markets would lead to potential economic instability were incorrect. In China, however, the authorities failed to recognise this big international phenomenon for a long period of time. What's more, till 1985 there were still a number of

In accordance with opening the Chinese economy to the outside world and the new development strategy, China's traditional foreign trade system underwent a series of reforms. Foreign trade reforms unfolded in the spring of 1979 with the decision to carry out special policies and flexible measures in Guangdong and Fujian provinces²⁶. Before 1987, attention was mainly given to decentralising foreign trade decisions to trading enterprises and dismantling the highly-centralised administrative system through creation of new trading firms, changing the scope of foreign trade planning and adopting decentralised trading practices. The attempts made after 1987 were directed at tightening the budget constraints of foreign trade corporations so as to enable them to become independent entities assuming sole responsibility for their profits and losses. The single most important step was the implementation of the contractual responsibility system. A key feature of this system, was that a large part of foreign currency earnings was retained by the foreign trade enterprises, production enterprises and localities, while a small part was turned over to the state. These wide-ranging reforms were based on a single critical assumption: China will not be able to modernise rapidly or effectively unless it further commits to economic integration with the outside world.

Along with the above reforms, the government took strenuous efforts to improve the macro-economic control system. That involved a reduction in the degree to which the exchange rate of the domestic currency was overvalued; a reduction in direct import subsidies; the rebates of various indirect taxes on exported goods; and a relaxation of the state's monopoly control over the allocation of foreign exchange. These policy prescriptions have in general reduced the bias against exports inherent in China's

newspapers and journals which continued to criticise the outward-oriented economy argument on its vulnerability; and policy makers simply ignored proposals formed in the academic sphere after studying the experience of the four "dragons". This was in part a reflection of ideological handicaps. Therefore, the adoption of the outward-oriented strategy constituted a dramatic change in policy orientation.

²⁶ For detailed information on these special arrangements in these two provinces, see Section 4 of this chapter.

traditional foreign trade and exchange regimes and moved further towards conforming China's foreign trade system with standard international practices.

China's opening to the outside world has rendered obsolete the conservative ideal of an economy free from internal and external debt. In contrast to the three decades before the 1980s, China now welcomes direct foreign investment; accepts aid, loans, and credits from foreign governments, international organisations, and commercial banks; and sees various foreign investment activities as an important channel through which it acquires advanced technological know-how, managerial skills, and marketing expertise. Its earliest initiatives, in retrospect, were the promulgation of the July 1979 law on joint ventures, which permitted foreign investment and defined equity joint ventures, and the August 1979 creation of Foreign Investment Administrative Commission (FIAC), which later in March 1982 was merged with the Ministry of Foreign Trade and the Ministry of Foreign Economic Relations into an umbrella organisation called the Ministry of Foreign Economic Relations and Trade (MOFERT). MOFERT was renamed as the Ministry of Foreign Trade and Economic Co-operation in 1992. Similar creation and restructuring of agencies occurred at the provincial level. In addition, decisions concerning foreign investment began to be decentralised with the initiation of the multi-level arrangement of opening to the outside world.

The origins of China's *multi-level arrangement*²⁷ of opening to the outside world can be traced to the July 1979 decision of the central government to implement special policies and flexible measures in Guangdong and Fujian provinces and to experiment on "Special Economic Zones"(SEZs) in the four designated areas along the south coast-

²⁷ The multi-level arrangement (or multi-level structure, or pattern) of opening to the outside world is a priority-oriented strategy of integrating the domestic economy with the world market. The essence of this strategy is reflected in its emphasis on the opening-up sequencing and priority structures in terms of degree of autonomy.

Shenzhen, Zhuhai, Xiamen, and Shantou²⁸. The SEZs, in some ways, resembled the export-processing zones set up in Taiwan, South Korea, and other developing countries in the 1960s and 1970s. As required by the setting up of SEZs under socialism, special administrative systems were instituted along with special economic policies in operation in these areas. Since their development relies mainly on utilising foreign investment, simultaneously with the endeavour of the government to establish a quality infrastructure and to offer a well-trained labour force for foreign investment, preferential treatment and possible advantages were provided to foreign investors in taxation, matters related to the entry and exit of their working personnel, and circulation of capital²⁹.

However, China's SEZs are, in a way, unique. Apart from performing the general functions as observed of the export-processing zones in other developing countries, the SEZs in China also served as windows through which greater contact could be established with the outside world. They also operated as laboratories in which new management techniques and economic policies could be tested before being adopted in the rest of the country; and as filters that could screen out those aspects of foreign technology and culture that are inappropriate for Chinese needs (Harding, 1987, 164). The SEZs took the lead in implementing market-oriented reforms. Technology- and knowledge-intensive projects have been encouraged along with export-oriented industries (Ma and Sun, 1992).

²⁸ Barnett (1985, 20-21) briefly expounded on the origins of the special economic zones. For analysis, see Ai Wei (1985, 117-135), Fenwick (1984) and Osborne (1985).

²⁹ These special policy arrangements allied with some others gave the SEZs a tremendous competitive edge, but the edge has been eroded by the opening of other cities and areas. For example, until 1984, the 15 per cent profit tax for foreign investors in SEZs had been quite attractive compared with the 30 per cent profit tax elsewhere in China. But the 15 per cent profit tax was applied in 1984 in the fourteen opened cities and fifteen Economic and Technology Development Districts (ETDDs) established in twelve of the open cities, and was also applied later to special enterprises outside the SEZs and ETDDs, including technology-intensive enterprises, enterprises with foreign investment over US\$30 million, investment in energy, transportation and harbour facilities (Yun-Wing Sung, 1991, 57).

The Chinese government in 1984 opened fourteen port cities³⁰ and Hainan Island along the coast, permitting them to provide foreign investors with tax incentives similar to, although less generous than, those inducements offered in the SEZs; and established 15 economic and technical development zones (ETDDs) in 12 of the opened cities, in which foreign investors were allowed tax incentives that were practically identical to those provided in the SEZs (Harding, 1987, 167), thus forming an initial lay-out of opening to the world from the North to the South. These are the second-level arrangements of the opening pattern. Some of the preferential treatment and special policies other than tax incentives that had been accorded SEZs were also applied in these areas³¹.

In early 1985, the areas at the third level, that is, the Yangtze River delta, the Pearl River delta, and the Xiamen-Zhangzhou-Quanzhou triangle area in Fujian province were identified as coastal economic opening areas, which consolidated in the in-depth lay out of the open structure along the coast³². By the end of 1988 when Hainan, the second largest (next to Taiwan) island of China, had been granted provincial status and became

³⁰ The fourteen opened cities are Shanghai, Tianjin, Dalian, Qinghuangdao, Yantai, Qindao, Lianyungang, Nantong, Ningbo, Wenzhou, Fuzhou, Guangzhou, Zhanjiang, and Beihai.

³¹ For a review of policies that have been applied to different arrangements of opening to the outside world, see Liu Xiangdong *et al.* (1993, 866-880).

³² Two things that occurred in the opening areas after their opening up warrant noting. First, the township and village economies in these areas, which already had a good start, were boosted with the implementation of the "trade-industry-agriculture integration" in late 1985. The village and township enterprises came suddenly to the fore as a new force in expanding exports, due to the characteristics of low labour cost, flexible management and quick adaptation to market demands. The proportion of export commodities supplied by such enterprises in Suzhou, Wuxi, Changzhou and Shanghai, for example, went up to 20 per cent or more of the total exports of these cities in 1987 from only 7 per cent in 1984 (Gu Mu, 1988, 31). At the same time, products were upgraded, from hand-made and rough processing to fine processing and better designs. Second, export-oriented farming sprung up at the same time, with the introduction of improved varieties and adoption of advanced farming techniques to produce high quality products, and development in processing, freshkeeping and storing facilities.

the largest SEZ; and Shangdong and the East Liaoning Peninsulas had been opened. Consequently, all of coastal China, with a population of 200 million people had been transformed into a single "development belt," offering greater incentives to foreign investors, with more freedom to approve contracts with foreign entrepreneurs, and increased control over foreign exchange. The opening process slowed although it was not derailed following the June 1989 Tiananmen incident. In the spring of 1990, Pudong in Shanghai was designated as an Economic Development Zone (EDZ) that would enjoy a policy status more flexible than those already applied in the original SEZs. This event marked the beginning of the emergence of a foreign investment area running in an east-west direction from the mid-lower reaches of the Yangtze River. By the end of 1992, several inland port cities on the bank of the Yangtze River had been opened³³; and the capitals of inland provinces and /or autonomous regions had become "interior" open cities where the preferential treatment in terms of taxation that had been applied in the coastal open cities was also applied (Liu Xiangdong *et al.*, 1993, 857). The implementation of the multi-level policy of multiplying the open areas in an east-west and south-north direction facilitated utilisation of foreign investment and promoted foreign trade³⁴.

The results from foreign investment³⁵ in the early 1980s were disappointing due to the absence of a well-defined legal framework and lack of investment incentives as well as ideological barriers on the Chinese side³⁶. The first nation-wide working conference

³³ Wuhu in Anhui province, Jiujiang in Jiangxi province, Wuhan in Hubei province, Yueyang in Hunan province and Chongqin in Shichuan province.

³⁴ See Liu Xiangdong *et al.* (1993, 851-863), and Chapter 3 of this thesis.

³⁵ Conceptually, China recognises four different kinds of direct foreign investment categories: Wholly foreign-owned ventures (WFOs); equity joint ventures as defined by the 1979 Law; co-operative ventures; and joint development, where returns are specified shares of physical output and which in practice applies to offshore oil exploration.

³⁶ During the 1979-82 period, China signed to undertake 83 equity joint ventures with foreign partners, with US\$140 million pledge foreign investment and US\$ 99 million actual direct foreign capital inflow (DFI). 1983 saw increases in both the number and value of approved joint ventures, 107 projects with

on utilisation of foreign investment held by the State Council in May 1983 was dedicated to providing guidelines for tackling some of the problems. In September of the same year, "Instructions on Strengthening Utilisation of Foreign Investment" of the CPC Central Committee and the State Council pointed to the strategic significance of utilising foreign capital, introducing advanced foreign technology and managerial expertise in speeding up China's modernisation; and directed attention of governments at all levels to working out effective policies and measures in order to encourage foreign capital, particularly direct foreign investment (DFI). The legal environment for joint ventures was clarified by a series of implementing regulations in 1983. This was followed in 1984 by a foreign investment boom which reached an all-time high of US\$ 4.6 billion in 1985³⁷ (Wang Jianmin, 1992, 32). But only in 1986 and 1987 was serious attention given to providing investment incentives; the Provisions for the Encouragement of Foreign Investment promulgated in October 1986 and their implementing regulations announced over the next year outlined basic incentive elements³⁸ and addressed some of the problems which occurred in practice. A more relaxed attitude towards foreign control of direct foreign investment projects was indicated by the promulgation in April 1986 of the Law on Enterprises Operated Exclusively with Foreign Capital. By April 1988 after the long-awaited Law on Co-operative Ventures was finally passed by the National People's Congress, a complete legal framework into which a joint venture might fit was established and the legislated investment incentives compared favourably with those offered by other Asian countries even though non-legislative disincentives to investing in China remained (Pomfret, 1991, 24).

US\$ 188 million in pledged foreign capital, but the amounts involved remained modest (Liu Xiangdong, *et al.*, 1993, 853).

³⁷ See Table 4.1.

³⁸ According to the legal documents, joint ventures could receive preferential treatment for tax and imports of materials, equipment and vehicles used in production. Explicit encouragement is now given to joint ventures involving advanced technology and producing for exports.

Table 4.1 Foreign Investment in China (1983-92)³⁹

Please see print copy for image

Source:- State Statistics Bureau (1993a)

Note:- @ refers to the equipment provided by foreign investors in compensation trade, processing arrangements and financial leasing.

As a consequence, China's utilisation of foreign investment accelerated in the second half of the 1980s. In 1989 alone, the total number of approvals of DFI were 5,779, with the pledged foreign investment amounting to US\$ 5.6 billion and the actual DFI US\$ 3.39 billion⁴⁰. Of the total approvals, there were 3,656 equity joint ventures, 1,179 co-operative ventures, 931 wholly foreign-owned ventures, and 10 joint development projects. The pledged foreign investments in the four categories were, respectively, US\$ 2.66 billion, US\$ 1.08 billion, US\$ 1.65 billion and US\$ 200 million (Liu Xiangdong *et al.* 1993, 853). Entering the 1990s and particularly after the 1992 speech made by the Chinese paramount leader Deng Xiaoping in his tour of Southern China, utilisation of foreign investment gained momentum. 1992 saw an approval of 48,764 DFI projects with US\$ 58.1 billion in pledged foreign investment (State Statistics Bureau, 1993a, 647). Several features are worth mentioning in passing with regard to DFI in China. The first striking feature is its geographical concentration in the coastal region. By the end of 1991, the coastal provinces accounted for 89.7 per cent of total DFI projects approved and 81.4 per cent in the total of pledged foreign investment.

³⁹ The figures refer to the actually utilised amount.

⁴⁰ See Table 4.1

Guangdong and Fujian outperformed the rest of coastal regions by far⁴¹ (Liu Xiangdong *et al.*, 1993, 855). This pattern of geographical dispersion reflected, to a large extent, the regional orientation of the open policy⁴². A second characteristic is the sectoral distribution of DFI⁴³. Of the total approvals up to 1992, 63.5 per cent were in manufacturing, accounting for almost two-thirds of the value of pledged investment and around 9 per cent was in the service sectors, accounting for 25 per cent of the value of pledged foreign investment.

The manufacturing ventures were dispersed, by order of the magnitude of foreign investment pledged, into energy, electricity and light industries and machinery, textiles, garments, chemicals, building materials, and medicines, whilst most foreign investments in the service sector were in hotel joint ventures and tourism projects. Agricultural projects only took up a small portion, around 3.8 per cent of the total approved and 2.6 per cent in pledged foreign investment (Liu Xiangdong *et al.*, 1993, 858). Most of the DFI ventures approved over the 1979-91 period were labour-intensive ventures. In the manufacturing sector, for example, about 70 per cent of the ventures fell into this category. This development was in contrast to the original Chinese intention to attract DFI involving advanced technology. The result in part reflected China's comparative advantage and the attempt to transfer labour-intensive industries from the countries where the investment had originated. It also partially reflected the attitude of foreign investors towards China's long-term political stability (Chen and Wu, 1989).

⁴¹ During the 1979-91 period, Guangdong accounted for 44.9 per cent of the total approvals and 43.4 per cent of the total pledged foreign investment. The two figures for Fujian are 12.1 and 9.2 per cent respectively. Over the same period, 1,305 DFI ventures (US\$ 3.5 billion pledged foreign investment) were approved in Shanghai; 1,367 in Zhejiang (US\$ 796 million pledged foreign investment); and 521 in Hubei (US\$ 325 million in pledged foreign investment). The shares of these three regions in the total of pledged foreign investment in China accounted for 6.6, 1.5 and 0.6 per cent respectively.

⁴² This is closely related with the priority structure of China's open-door policy. See Yun-wing Sung, (1991, 11-12); Liu Xiangdong *et al.* (1993, 856).

⁴³ See Ma and Sun (1992, 2191) and Liu Xiangdong *et al.* (1993, 857-858) for detailed information.

A third feature is given by the classification of all approvals by method of investment. Up to 1992, 58.7 per cent were equity joint ventures, accounting for 40.6 per cent of the value of pledged foreign investment; 14.7 per cent wholly foreign-owned ventures, taking up 17.6 per cent of the foreign investment pledged; and 0.18 per cent petroleum joint development ventures with a share of 6.6 per cent in pledged foreign investment (Ma and Sun, 1992, 2191).

4.3 The Main Features of the Pre-Reform Foreign Trade System

China's pre-reform foreign trade system, which was borrowed from the Soviet Union in the 1950s, came into shape in 1957 with the nationalisation of the nonstate firms engaged in foreign trade. The highly centralised nature of the regime was dictated by the premises of the import substitution strategy that was adopted in the 1950s.

State control of foreign trade began being exercised in the early 1950s with the communist regime's take-over of the foreign trade corporations from the Nationalist Party. The December 1950 Provisional Regulations on Foreign Trade Administration were promulgated by the State Council and its implementing regulations defined the nature and the scope, and outlined the rules for state control of trade. The purposes of state control, as then defined, were three-fold: (1) To protect and develop domestic industry; (2) To expand exports and imports; and (3) To properly use and exercise foreign exchange control (MCFTEB, 1992, 152). Administrative agencies were created both at the central level and the provincial level.

The Ministry of Trade, an agency created in October 1949 to be in charge of domestic and external trade, was replaced by the Ministry of Foreign Trade (MFT) in September 1952, which then became an executive department for leading and

supervising foreign trade⁴⁴ (MCFTEB, 1992, 61). By 1957, with the nationalisation of private firms engaged in trade, foreign trade became a complete monopoly of the central government⁴⁵. MFT exercised control of trade through a number of state-owned corporations specialised in handling defined product lines. In 1950, seven specialised foreign trade corporations (FTCs) were established- six for export goods and one for imports⁴⁶. By the mid-1950s the number had increased to sixteen. These general FTCs set up branches in localities. The number rose and fell within a narrow range of 10-16 over the ensuing period of more than two decades prior to the reform. By the end of 1978, eleven general trade corporations had been operating with more than 120 branches and auxiliaries in various localities, controlling nearly one hundred per cent of trade (MCFTEB, 1992, 94). Even in 1986, after seven years of decentralisation, nearly all trade was conducted by FTCs, but by a much larger number of them. In 1981, the national FTCs and their branches controlled 89% of trade, but by 1984 this share had fallen to 72 per cent, as result of the proliferation of foreign trade corporations created under ministries other than MOFERT and by provinces (IBRD, 1988, 22).

Being an appendage to state administrations, the FTCs were instrumental both in determining and implementing the state's foreign trade plan. The annual foreign trade plan was an integral part of the overall economic planning process. The foreign trade

⁴⁴ After a restructuring of government organisations in March 1982, MFT was combined with the Ministry of Foreign Economic Relations, and was renamed the Ministry of Foreign Economic Relations and Trade (MOFERT) which, in 1992, changed to the Ministry of Foreign Trade and Economic Co-operation (MOFTEC).

⁴⁵ At the founding of the People's Republic of China, there were 4,600 private firms engaged in foreign trade employing thirty-five thousand people. By the end of 1955, the number of private firms were reduced to 1,083; trade turnover declined accordingly from an initial 31.6 per cent of all trade to only 0.8 per cent. These private firms were either merged with the national foreign trade corporations or became partners of joint ventures in conjunction with the national firms. By the end of 1956, 54 such joint ventures had been set up (Liu Xiangdong *et al.*, 1993, 32-33).

⁴⁶ The trade turnover of the national corporations accounted for 68.4 per cent of all trade in 1950, 92.8 per cent in 1952, and 99.2 per cent in 1955.

planning process, which was consistent with economic planning in terms of the planning method, emphasised material balancing involving a number of balancing relations including those between export supplies and exports, exports and imports, regional and sectoral distribution of trade plans, imports and domestic consumption. The level and composition of trade was determined through centralised planning systems with import and export plans made by separate state administrations (MCFTEB, 1992, 183). From 1950 until 1987, the export plan was made by MFT in consultation with the general FTCs, whilst import plans were decided by the State Planning Commission in conjunction with MFT. The export planning method, in general, was a combined top-down and bottom-up process, in which MFT would first issue the controlled figure for the annual export plan to the general FTCs; the general FTCs would in turn submit to the Ministry their draft plan made in accordance with the controlled figure. MFT would then finally approve and assign the plan. Import and export plans had to be endorsed by the State Council and passed by the National People's Congress, a law-making body of the country, before they were entrusted to the FTCs for implementation. The import and export commodities were specifically listed to be consistent with the authorised scope of business of the FTCs⁴⁷. To ensure the procurement of export supplies for the planned export target, MFT would also make an export supply procurement plan and assign the plan to the FTCs, the industrial ministries and provincial governments. The ministries and provinces would in turn divide and assign the plan down to enterprises that were responsible for export production through their respective planning mechanisms.

The export supply enterprises were entitled to some special supplies of materials that were in short supply through the export supply plan. The export supply plan was

⁴⁷ The FTCs had been given monopoly powers within specified scopes of business since the mid-1950s. This product-specific division of business generally paralleled China's industrial production ministries. This is apparent from the names of these corporations. For example, the China National Textiles Import and Export Corporation handled goods produced by the enterprises under the Ministry of Textile Industry, the China National Machinery Import and Export Corporation handled goods produced by the enterprises under the Ministry of Machinery, and so forth.

determined in accordance with the details of the export plan. It specified the total value of export supplies to be achieved, the quantity (value) of planned items and the value of export commodities that each industrial ministry, province and foreign trade corporation were obliged to fulfill. The export procurement plan was a key element of the foreign trade plan, and was to ensure the achievement of planned export targets. However, as Lardy (1992, 18-19) elucidated, planned export supplies were not always ensured to FTCs. They frequently had to scramble to locate goods to achieve their export targets. This process further diminished the relevance of economic costs in determining the pattern of exports. This planning system remained essentially unchanged until the mid-1980s albeit with some important changes from the pre-reform system that are discussed in the next section.

The system of foreign trade planning almost eliminated the role of prices in performing allocative and incentive functions, particularly on the export side. FTCs purchased goods pre-specified by the procurement plan from domestic producers at officially established prices, either ex-factory prices in the case of manufactured goods or procurement prices in the case of agricultural products. In most cases, the procurement was carried out indirectly by foreign trade firms under lower level administrations⁴⁸. Export-producing enterprises received the same price for a good

⁴⁸ These firms were under prefectural and/or county foreign trade Bureaus. They had no direct foreign trading rights, but were related to FTCs at the provincial level (as a sort of auxiliary of the branches) and best known as "export-supply companies". The purpose of their existence was twofold: To serve in implementing foreign trade plans and related policies; and to procure the export supplies pre-specified by the plan for FTCs. Their main income source came from commission-like payments, known as "handling fees", from the FTCs for which they provided service. Under some circumstances, determination of the final amount of handling fees depended much on the bargaining power of the local firms. Such a procurement system remained essentially unchanged until 1988. After that, the general tendency was for the locals to break away financially from the FTCs to become independent entities assuming responsibility for their profits and losses. Although most of them were still procuring export supplies after 1988, they then became independent buyers and sellers handling business according to the market supply and demand conditions.

whether it was sold domestically or in the international market⁴⁹. Moreover, they were not entitled to have any foreign exchange income from the sale of the goods abroad nor did they have any claim on that foreign exchange to finance their necessary imports. Under these circumstances producers had little incentive either to sell on the international market or to expand production of goods for which there was strong international demand. It is in this sense that exports were perceived mainly as a means of financing imports on the macro level. Export activities on the micro-level, were not the result of decentralised profit maximising behaviour by producers who found higher profit margins from international than domestic sales but the outcome of pressures from the foreign trade planners. Export behaviour was not dictated by the internal motivation of the producers but by the administrative forces (Wu Xihua *et al.*, 1988).

On the import side, the pricing of imported goods sold on the domestic market was more complex than export pricing and changed over time. But in general the import pricing policy reflected the import substitution character of the trade regime. That was evident in the statement of the domestic pricing principle for imported goods, defined as *setting prices at the same level as comparable domestic products*, and the pricing practice for producer goods throughout the 1950s and the early 1960s. During that entire period, a so-called "transfer price" system was applied to almost all imported machinery, equipment, industrial raw materials and intermediate goods such as steel. Under that system, the domestic prices of these goods were determined by converting the import CIF price valued in foreign exchange, to Renminbi⁵⁰ using the official exchange rate plus a commission of 2 to 3 per cent charged by the foreign trade

⁴⁹ The general pricing policy of tradables was for the price to be based on the quality of a good. An enterprise might receive a higher (lower) price if the export product was of a higher (lower) quality than the good produced for domestic consumption with the latter's price serving as the reference. But, in reality, the quality comparisons and subsequent price adjustments made in the pre-reform era, to a large extent, were a "random process", in which social factors (such as the closeness of personal relations between the persons involved) rather than economic considerations played the dominant role.

⁵⁰ The name of Chinese currency whose unit of account is yuan.

corporation handling the import to cover their own costs of handling the transactions (Lardy, 1992, 21). However, as will be established later in this chapter, the official exchange rate significantly overvalued the Renminbi. That caused the domestic prices of these imports to be substantially lower than they would have been at an equilibrium exchange rate. As a result, the end-users of imported machinery, equipment, and industrial raw materials received implicit subsidies.

The occurrence of two events led to a change in the domestic pricing of imported goods⁵¹. To protect domestic production and to alleviate the domestic financial losses being incurred on external transactions, the method of converting the import cost to domestic currency at a premium over the official exchange rate was introduced in 1964 in accordance with the State Council's stipulation that most imported goods should be sold at prices comparable to similar domestic goods with appropriate adjustment either upward or downward to reflect differences in quality. From 1964 through 1980, 80 per cent of all China's imports were priced on this principle (Lardy, 1992, 22). The adoption of this method substantially increased the protection afforded to China's rapidly emerging producer goods sector, particularly machinery and other equipment, through effectively devaluing the Renminbi. It also raised substantial additional domestic resources for the FTCs⁵² (Wang and Qiao, 1988, 195). But the adverse result of the changes in the pricing of imports initiated in 1964 was to reduce the role of relative prices in resource allocation and to increase substantially the degree of protection offered to China's domestic industry, particularly the machinery sector.

⁵¹ By the early 1960s, imports were underpriced due to the overvaluation of the domestic currency and were increasingly in competition with the domestic substitutes as the domestic production of machinery, steel, etc., had expanded rapidly to have outpaced the growth of industry as a whole. Another development was that beginning in the late 1950s and continuing in the early 1960s the FTCs under MFT for the first time incurred financial losses, measured in domestic currency, on their trade transactions. See Lardy (1992, 21-22) for an extended discussion.

⁵² For a detailed exposition see Xiang Yin (1985).

Before concluding the present section, we wish to mention a point about foreign trade under the centralised planning system. As has been noted, the FTCs were the main point of contact with foreign buyers and suppliers, and Chinese enterprises were to a large extent insulated from world market fluctuations. The insulation of the domestic market from international price fluctuations and the foreign trade procurement system created a buffer that the World Bank has characterised as an "airlock" between Chinese enterprises and world market forces⁵³. This isolation was an explicit aim of the trade system as originally constructed, as world market forces were viewed as irrational and potentially harmful to the national interests. The air-lock existed to a great extent until late 1980s albeit with big changes after 1979. It created many a problem, which vary from losses of efficiency and lack of information, to absence of competition⁵⁴. Removal of the airlock has been one of the major tasks for the reforms initiated in 1979.

4.4 Trade Reform and Liberalisation

4.4.1 Decentralisation of Foreign Trading Rights

China began to decentralise foreign trading rights in 1979. Through the three decentralisation drives discussed below, the monopoly on foreign trade that the central government had formerly exercised through the national FTCs was greatly relinquished⁵⁵. By the end of 1987, MOFERT approved the creation of over 2,200 foreign trade enterprises, including foreign trade corporations and trading companies set up by large producing units. Only one year later, through the third wave of creation of

⁵³ See IBRD (1988, 25).

⁵⁴ Ibid., 25-26.

⁵⁵ By the early 1990s, China's international business operating system had been well-shaped. Foreign trade of the nation had been handled by trading enterprises of varied types: (1) the general foreign trade corporations; (2) corporations created by the industrial ministries; (3) local foreign trade enterprises; (4) trading companies established by large production enterprises and enterprise groups; (5) Sino-foreign joint ventures.

foreign trade enterprises, the number of trading companies had soared to more than 5,000 (MCFTEB, 1992, 97). Creation of new trading firms, allied with other measures, facilitated the growth of trade⁵⁶.

Decentralisation of foreign trading rights, as a central task of the first stage of reform, went through three cycles of liberalisation and retrenchment over the whole reform period. The first drive was initiated with the July 1979 decision of the central government to implement special policies and create SEZs in Guangdong and Fujian Provinces. The two provinces were given more authority to approve foreign trade enterprises, and were authorised to establish provincial FTCs to directly engage in transactions concerning the export of the goods produced locally and import of materials required in their production (MCFTEB, 1992, 95). Following the above attempts, China, in late 1979, decided to allow other provinces to establish local FTCs to handle local import and export business. Beijing, Tianjin and Shanghai, the three municipalities under the direct jurisdiction of the central government, soon after being afforded with enlarged autonomy in handling foreign trade, established local general foreign trade corporations. Other provincial governments also established foreign trade corporations in turn to handle regional trade. For example, Hubei established Hubei Huafeng International Trade Corporation in 1981.

Nineteen national production ministries created their own FTCs to bypass the national FTCs in the 1979-80 period. For example, the Ministry of Metallurgical Industry established its own foreign trade corporation, the China Metallurgical Import and Export General Corporation, enabling it to by-pass the China National Metals and Minerals Import and Export Corporation, one of China's oldest and largest FTCs. In the same year, the Ministry of Machinery set up the China Machinery and Equipment Import and Export Corporation to by-pass the China National Machinery Import and

⁵⁶ See Chapter 3 for a discussion.

Export Corporation. These ministerial corporations also established their branches in the provinces. By the end of 1981, more than 400 new foreign trade corporations had been established nation-wide⁵⁷ (MCTFEB, 1992, 95). The pace of decentralisation of foreign trading rights slowed down in 1982 and 1983 following the macro-economic disorder and inefficiency which resulted from the first drive of liberalisation⁵⁸.

After two years of concerted retrenchment, decentralisation of trading rights entered a second period in 1984. A full set of reform measures, as codified in MOFERT's August 1984 report⁵⁹ on the proposal for foreign trade reform, were introduced, including the following three basic principles⁶⁰: (1) To separate government functions from enterprise management and strengthen administrative management of foreign trade; (2) To adopt an import and export agency system to improve operation and management of foreign trade; and (3) To facilitate the combination of foreign trade enterprises with production units and raise economic efficiency. The liberalisation attempts during the second stage in general reflected the spirit of these basic principles. During the two-year period of 1984-1985, over 400 foreign trade corporations with

⁵⁷ This excludes the foreign trade corporations approved locally by Guangdong and Fujian.

⁵⁸ See Zhou and Ma (1993, 73) for an exposition of the issue.

⁵⁹ MOFERT submitted a report to the State Council on reform of the foreign trade system on August 14, 1984. This report was approved by the State Council on September 15, 1984. On the major elements of the reform identified by the report, see IBRD (1988, 21).

⁶⁰ These three principles in general set the tone for further decentralisation attempts concerning foreign trading rights. Apart from these principles, the report identified other three key elements of reform, namely, (1) To simplify administration and transfer power to lower administrative levels and bring into full play the managing initiative of various foreign trade enterprises; (2) To reform the foreign trade planning system and simplify the contents; and (3) To reform the foreign trade financial system and strengthen the economic means of regulation. Most of the reform proposals had barely been implemented when a massive trade deficit and runaway inflation forced planners to recentralise domestic reforms leading to a loss of control over investment and monetary expansion. The trade deficit was caused primarily by the relaxation of foreign exchange and import controls, especially in the open areas. To rectify the imbalance, planners imposed severe administrative controls on bank loans, foreign exchange and investment in early 1985.

diversified lines were established⁶¹ (MCFTEB, 1992, 96). They were spread into provinces, the coastal open cities, SEZs and cities with independent planning status⁶². A particular feature of the reform that should be noted regarding the decentralisation of this period is the authorisation of foreign trading rights to the first lot of large domestic production enterprises. That reflected the effort to integrate trade with industry.

Following a pause in 1986 and early 1987, trade liberalisation gained momentum in 1988. To coordinate the implementation of the outward-oriented development strategy in coastal areas, and the practice of the contractual responsibility system, MOFERT in early 1988 decided to decentralise some of the authority for approving foreign trade enterprises. The provinces and cities with independent planning status in the central government were permitted to approve foreign trade enterprises dealing in foreign transactions in the localities. In the meantime, the branches of the national general FTCs⁶³ that had been operating in localities were handed over to the provincial governments for management. After disconnecting with their branches, the general FTCs began a campaign for organisation of multinational construction and internationalisation. They actively proceeded with corporate organisational construction creating globe-wide operating networks. By the end of 1988, the general FTCs had established 131 sister companies both at home and abroad, and had become well-diversified in business lines (MCFTEB, 1992, 98). At the provincial level, the decentralisation of enterprise-approving rights greatly boosted creation of trading companies. In the early part of 1988 alone, the local governments approved creation of more than 1,000 foreign trade enterprises (MCFTEB, 1992, 97). To facilitate the carrying out of the contractual responsibility system, most of the provinces, apart from

⁶¹ This figure excluded the establishment of foreign trade enterprises approved locally in Guangdong and Fujian provinces.

⁶² This refers to a city that was considered as a separate entity by the central government in terms of planning, financial, and material arrangements. It was a reform measure to encourage development of some large cities, introduced in 1983-1984.

⁶³ By 1988, the number of national general corporations increased from 11 in 1978 to 18.

establishing trading companies under the provincial foreign trade administration, also authorised establishment of FTCs in prefectures and even counties. For example, Hubei in April 1988 permitted five prefecture-level and one county-level cities to directly engage in foreign trade transactions⁶⁴. Similar attempts were made in Zhejiang province. However, due to lack of experience and absence of the necessary facilities and human capital, the newly created trading companies in the prefectures and counties did not pursue independent operation but practised joint-operating or agency arrangement with the provincial FTCs in 1988. Some of those newly created firms (under the prefecture-level or county-level cities) continued to rely on a sort of agency arrangement with the provincial corporations for the entire three-year contracting period (1988-90).

4.4.2 Reducing the Scope of Foreign Trade Planning

Simultaneous with decentralisation of foreign trading rights, the central government instituted a series of reforms to change the initial foreign trade planning system. As will be apparent from the discussion below in this section, the general purpose of those reform measures was to enlarge the decision-making power of foreign trade enterprises, so that they could be more flexible and responsive to the changing international market environment, and fulfill the state plan with maximum economic returns.

The reform process went through three distinctive stages. Stage1 (1978-1984), which was closely related to the decentralisation of trading rights, witnessed three major changes. First, the expansion in the number of FTCs as a result of the decentralisation of foreign trading rights significantly eroded the monopoly position of the national FTCs. In view of this change, the central government decided that all units that had been granted foreign trading rights were to undertake export plans. On the import side, with

⁶⁴ Hubei Foreign Economic Relations and Trade Commission, *Several Key Issues on Foreign Trade Reform*. This text can be located in Hubei Foreign Economic Relations and Trade Commission Policy Research Department.

the introduction of the foreign exchange retention scheme in 1979⁶⁵, the share of imports financed by local governments and ministries kept rising during 1979-1981. The central government as of 1982 began to make local and ministerial import plans. Imports under this plan were to be paid for by local governments and the production ministries with the foreign exchange they retained. Second, in view of the fact that it was unavoidable, with rapid export expansion, to procure above-plan export supplies to honour the contracts signed with foreign counterparts, a report-for-approval method was introduced in 1978 to deal with the procurement of export supplies in excess of the target amount. By this measure, any case of excessive procurement had to be submitted to MFT for approval before the actual procurement commenced. The procedures for the report-for-approval varied depending on the nature of the items, of which the excessive procurement was necessitated. When the product was a "central item"⁶⁶, the case had to be reported to MFT through the vertical administrative system. On the other hand, if the product was a "local item", the case had to be reported within the foreign trade corporate system. This management method was designed to avoid unnecessary pile-ups of inventory. Moreover, the central government granted to some central cities, province-level management power in foreign trade to stimulate trade growth. The cities authorised with such management autonomy thereby became independent planning entities undertaking foreign trade plans independently of their administratively superior

⁶⁵ As an attempt to liberalise foreign trade and exchange regimes, foreign exchange retention scheme was introduced in August 1979, and was formalised in January 1984 with standard rates, and subsequently modified in January 1985 such that the retention rights were shared equally between the enterprise exporting and provincial authorities. For a detailed expounding of the evolution of the policy, see Liu Xiangdong *et al.* (1993, 455), also section (4.4.4) of this chapter.

⁶⁶ In terms of the importance identified by the then trading planners, a distinction was made between the terms "central item" and "local item". A central item refers to the priority item that were subject to the control of the central government and handled exclusively by the general FTCs. By contrast, a local item was a good that had already been decentralised to local (provincial) governments for management and were handled by the branches of the general FTCs, and/or FTCs under industrial ministries as well as those trading enterprises created by provinces.

provincial governments. By 1991, 14 central cities had been included in this arrangement (Liu Xiangdong *et al.*, 1993, 92).

The second stage of reform, from 1985 to 1987, was guided by the MOFERT's August 1984 Report on Foreign Trade Reform. Two major changes at this stage are worth mentioning. A first change was a further reduction of the scope of the national foreign trade plan. Prior to the foreign trade reform initiated in the late 1970s, all trade, in principle, was included in the national foreign trade plan. The export plan alone covered the quantities of some 3,000 individual commodities that were to be procured by the state for export (Sun Wenxiu, 1989, 53). Similarly, the import plan was comprehensive, covering more than 90 per cent of the Chinese imports. Following the reduction in January 1982 of the scope of the foreign trade plan, the Central government further reduced its scope in September 1984. The number of planned export commodities was further reduced from 199 in 1982 to about 100, which accounted for some 55 per cent of all exports. The rest of exports were subject to decentralised trading except for the part that was to honour contracts under bilateral governmental trade agreements (MCFTEB, 1992, 190).

On the import side, progress was even more rapid, with the tendency during this period to gradually reduce the plan coverage and increasingly subject import activities to decentralised import practice such as an import agency arrangement. By 1986, the import plan had only involved "turn-key" equipment, introduction of foreign technology, imports from countries with which China had entered into a bilateral trade agreement, and a few key raw materials⁶⁷ that were under "unified management" and were closely related to the traditional role of supplementing shortfalls in domestic production for the material allocation system. These imports accounted for about 40 per cent of all imports (IBRD, 1988, 22). The balance of imports would no longer be

⁶⁷ The "unified management" commodities were steel, chemical fertilisers, rubber, timber, tobacco, grain, and polyester and other synthetic fibres.

controlled by the import plan. They could be handled either independently by the producers with direct trading rights, or by FTCs upon request of end-users (through an agency arrangement), and could be financed with retained foreign exchange of provinces and enterprises or with foreign borrowing by noncentral authorities. But these imports were subject to control of the import licence system⁶⁸.

A second change was the division of the foreign trade plan into command and guidance plan components. The command plans were mandatory, and were specified in physical quantities and were of a legally compulsory nature. In most cases the responsibility for fulfilling command plan targets for exports and imports lay with the general FTCs. In contrast, the guidance plans, which specified value targets, were assigned to provincial authorities and their subordinate trading corporations, which had considerable flexibility in determining how to achieve them (IBRD, 1988, 22). Additionally, the national foreign trade plan was also much simplified. The foreign trade procurement and transfer plans were abolished in 1985. That was a clear orientation towards market regulation. To ensure the necessary export supplies, provincial authorities and FTCs were in general encouraged to secure orders by means of using the foreign trade agency system, and establishing joint and co-operative ventures with production and supply units⁶⁹.

Reform efforts of the third stage (beginning from 1988) were centred around implementation of the contractual responsibility system, a topic we will turn to in the next section. With the break-away of the Head Offices of the general FTCs from their

⁶⁸ See IBRD (1988, 23).

⁶⁹ Supply units or domestic supply units, basically, refer to the domestic supply and sales corporations, which had over the decades of the planning era served the Chinese traditional material allocation system. Albeit with important changes after the implementation of the market-oriented economic reform, these firms still controlled all trade of some key raw material products, such as cotton, and a good part of others until the late 1980s. For the export of cotton and grain, for example, FTCs with such handling rights often had to "cope with" these supply units for securing their planned orders.

regional branches because of the implementation of the contracting system, the national foreign trade planning system changed into a "single-track" system from the previous "dual" system⁷⁰. The various contracting targets were mandatory. Under the new system, local governments and other units contracting were obliged to make annual and medium- and long-term foreign exchange balance plans. The balance plans were to be submitted to the State Planning Committee and MOFERT, which would incorporate them into the National Economic and Social Development Plan.

Two points should be mentioned separately regarding the reforms in the foreign trade planning system. First, the adjustment of the planning scope was oriented towards market regulation. Through the early 1988 adjustment of the scope of planning, 112 commodities came under trade plan management, comprising 45 per cent of all exports, of which mandatory planned export items accounted for 30 per cent and guidance plan commodities 15 per cent. The rest of exports, which approximated about 55 per cent, were subject to market regulation (Liu Xiandong *et al.*, 1993, 93). On the import side, mandatory planned imports were reduced to only 20 per cent of total imports. Another 20 per cent of the total was subject to direction of use, while the remaining 60 per cent was subject to decentralised trading. The above planning system and planning scope remained virtually unchanged until 1991 when the State Council decided to deepen foreign trade reform by implementing the self-responsibility system⁷¹.

⁷⁰ When the branches had to consolidate with their head offices in terms of planning arrangements, the annual national foreign trade plan had to be assigned through both the administrative and the corporate systems. The Head Offices, as we discussed in the previous section, were performing certain administrative functions, monitoring the implementation of the national foreign trade plan. With the break-away of the branches from their Head Offices, the branches became now in general independent entities under the supervision of the provincial trading authorities. Accordingly, MOFERT assigned trade plans directly to the provincial administrative authorities, which in turn passed them on to various local FTCs.

⁷¹ The central government abolished mandatory planning for exports in 1991. It also eliminated budgetary subsidies to FTCs for exports. By 1992, planning for imports covered only 11 broad product

4.4.3 Institution of Licencing Management

As the trade reforms advanced, the central government chose import and export licencing to control the volume and commodity composition of trade⁷². Theoretically, the resort to import and export licencing in open, market-oriented economies, is an indication of a move-away from freer trade toward more managed trade, the introduction of licencing in China, however, should be viewed as a measure reflecting a transition from a Phase I to a Phase II liberalisation of an import substitution trade regime (Lardy, 1992, 43). The previous control of all trade transactions exercised through the national FTCs corresponds to Krueger's Phase One which is characterised by the sharp intensification of across-the-board quantitative controls. In Krueger's Phase Two, reliance upon quantitative restrictions continues with the detailed workings of the control system becoming increasingly complex and specific along with increasing use of price measures such as import duties, export subsidies, and multiple exchange rates, to support quantitative restrictions⁷³.

The import and export licencing systems were not new to China. They were used to control both imports and exports into and from China from 1951 to 1957, before the national FTCs fully established their monopoly powers. The restoration of the system⁷⁴

groups, accounting for about 18 per cent of total imports. The scope of import planning was further reduced in 1993. See Wanda *et al.* (1994, 4).

For a discussion of the contracting system see the next section (4.5).

⁷² China has also managed imports through tariffs. Until recently the import tariff system still has a relatively high average rate with a wide dispersion of rates, and represents an impediment to allocative efficiency and knowledge spillovers. See Liu Xiang Dong *et al.* (1993, 559-560) and Wanda Tseng *et al.* (1994, 7) for an extended discussion.

⁷³ In the case of China, price measures that were applied in Phase Two included foreign exchange retention, internal settlement exchange rate, tariffs and domestic tax rebates. These measures were the predominant means of encouraging exports. They were used to offset export disincentives that were inherent in the traditional import substitution regime.

⁷⁴ The licencing system was restored in 1980 with the promulgation of two interim regulations respectively on import and export licencing by the then State Import and Export Commission (SIEC) and MFT. After several years of practice, in January 1984 the State Council promulgated the Provisional

after a hiatus of more than twenty years reflected a changed environment in terms of trade institutions and China's intention to liberalise its foreign trade regime⁷⁵. The main policy objectives of licencing, as Liu Xiangdong *et al.* (1993, 107-117) argues, were to strengthen the planned management of imports, so that its economic results are enhanced and the development needs of constructing a new socialist China are better served. On the export side, the aim was to regulate the volume and composition of exports so as to locate resources efficiently and obtain national macro-economic benefits. Underlying the above objective is the serious concern of the government regarding the effectiveness of the trade policy instruments at its disposal during the initial reform period. In principle, the aim of the system is to exercise control of unplanned imports financed through retained foreign exchange earnings. It was commonly understood, therefore, that the central government intended to increase the coverage of licenced imports along with the reduction in the plan-controlled imports. With respect to exports, licencing was designed to assure favourable prices for China's primary exports and to prevent "excessive" exports of goods that remained significantly underpriced on the home market (Lardy, 1992, 45; IBRD, 1988, 162).

Since the initiation of the licencing system in 1980, the number of commodities subject to licencing has been changing. As Table 4.2 shows, the number of items subject to licencing increased steadily until 1986. On the import side, the number increased steadily between the early 1980s and 1987, and remained virtually unchanged after

Regulation on the Issuing of Import Licences of the People's Republic of China. To facilitate implementation, MOFERT and the General Administration of Customs (GAC) jointly issued the "Rules for the Implementation of the Interim Regulations on Licencing System for Import Commodities of the People's Republic of China". The current import licencing system is practised according to the 1984 regulation and its implementing regulation.

⁷⁵ Three key elements of changes associated with foreign trade institutions were important in entailing the adoption of the licencing system, namely, the reduction in the scope of foreign trade planning, the introduction of new forms of trade and the relaxation of the foreign exchange allocation mechanism. On the new forms of trade practised in China see Lardy (1992, 41-43), and Ma and Sun (1992, 2144-47).

1988. The change in the number of export items subject to licencing has exhibited a "M" trend. As of 1993, there were 114 export commodities, mostly primary products, for which licences were required. The increase in licenced imports and exports in the early years after licencing was applied reflected China's intent to strengthen management of

**Table 4.2 Commodities Subject
to Licencing (1981-93)**

Please see print copy for image

Source:- Lardy (1992, 44); Import licencing data (1987-93) comes from the following documents: (i)*Waijinmao guan jing No 4* (1987); (ii) *Waijingmao jingchu fa No 12* (1991); (iii) *Waijingmao guan jing No.429*. Export data (1990-93) is from: (i) *Waijingmao zheti zi No.4 [Guo fa No.70* (1990)]; (ii) *Waijingmao guan fa No.79* (91); (iii) *Guo fa No.69* (1992); and (iv) *Waijingmao guan fa No.93* (1993). All can be found in the Foreign Trade Management Department, Hubei Foreign Economic Relations and Trade Commission.

trade after the shrinking of foreign trade planning. With the introduction of the foreign exchange retention system and import agency arrangement, planned imports declined steadily in the first half of the 1980s, and accelerated after the mid-1980s⁷⁶. On the other hand, with the decentralisation of foreign trading rights, an increased proportion of

⁷⁶ See Lardy (1992, 69-76), and also Section 4.4.5. of this thesis.

exports was arranged through decentralised practice. Resort to licencing in the early period was an transitory measure to regulate trade in the period of foreign trade decentralisation. The declining trend after 1986 in licenced commodities, particularly exports, has been a result of the further commitment of the government to economic internationalisation.

The use of licencing serves several economic functions in practice. On the import side, besides the key role of controlling the balance of payments directly through quantitative restrictions, licencing is also used to protect specific domestic industries. This is reflected in the list of restricted imports. For example, in the 1993 restricted list of imports, a number of products are luxury consumer durables and related parts or components. The objective of the government here seems to be balance-of-payments control rather than protection. But for the 34 types of assembly lines used to produce consumer durables on the list, the purpose of licencing appears to be protection for domestic producers.

Regardless of the objective, licencing produced rents in the system, particularly in the early years after its introduction when China's foreign exchange rate was overvalued with the effect of encouraging import demand, coupled with a phenomenal price divergence between domestic and international markets. A prominent practical example was the infamous "Hainan incident" of autumn 1984, in which the local government financed capital construction projects with the profits from imported motor vehicles and other consumer durables, using retained foreign exchange. As the system became more liberalised with continuing market-oriented reforms, economic rents of the import entitlements have been significantly reduced. With pricing and exchange rate reforms and the introduction of a tendering system for allocating import licences in the early 1990s, licencing is contributing to a more rational choice and distribution of imports.

The prime objective of export licencing is to maintain the rationality of domestic resource allocation in the presence of severe price distortion. As noted above, the purpose of economic reforms in principle is to enhance economic efficiency, and the overall efficiency of the system mainly depends on the efficiency of resource allocation. However, with the existence of distortions, prices could not function fully to allocate resources efficiently. The quantitative export restriction instrument (licencing) was therefore necessary and was introduced in the absence of a rational pricing system.

Licences served several specific economic functions with respect to exports. First, they were used to preserve a rational proportion of goods between domestic and international sales, where goods remain significantly underpriced on the domestic market. Because the domestic prices of these goods were not permitted to rise to the levels of world markets, these goods would be sold largely on the external markets in the absence of export controls, resulting in domestic shortages. Thus, the state increasingly used export licences to alleviate or forestall potential domestic market shortages in the course of the decentralisation of trade decisions in the 1980s. This is apparent from the list of restricted export commodities, which features mostly underpriced raw materials and mineral products such as oil and grain.

Second, licencing was employed to regulate exports of those commodities where China is a dominant supplier to the international market and can exercise market power. China was a major world supplier of a number of commodities, particularly primary products. Uncontrolled increases in the volume of these exports would depress international market prices, so the government was concerned about monitoring them to ensure the overall benefit to the country⁷⁷. The same is true with the Hong Kong and Macao markets, where China has established a dominant market presence in the supply of fresh vegetables and many speciality foodstuffs as well as many other items. China

⁷⁷ See Liu Xiangdong *et al.* (1993, 117).

closely monitors price conditions for its products in these markets and uses export licences to control the volume of exports so as to maximise profits in these markets.

4.4.4 Foreign Exchange Retention

The Chinese government introduced the foreign exchange retention system in 1979 as a key element of its overall strategy to encourage exports and promote opening up to the outside world. It was a foreign exchange sharing system between the central government, export-producing enterprises and local governments. Adoption of this measure constituted a tentative step in the direction of more decentralised foreign exchange allocation and partial market determination. In a market-oriented economy, foreign exchange allocation mechanisms have two essential, overlapping functions: they allocate foreign exchange among the various potential users, and they determine the price at which foreign exchange is traded. The importance of the latter cannot be overemphasised, and has two major effects. Firstly, the exchange rate alters the relative attractiveness of producing a specific good or service for export markets vis-a-vis the domestic market and the ability of the domestic product to compete with imports. In addition, if changes in the exchange rate are permitted to have an impact on domestic prices, the relative prices of the tradables and nontradables will be altered, thus influencing the production and investment decisions of enterprises. However, in the presence of stringent foreign exchange controls as in the case of China, these functions were performed separately by the administration rather than at the market place. The state allocated all foreign exchange and determined the foreign exchange rate through administrative measures.

The administrative nature of foreign exchange allocation and exchange rate determination mechanism had several immediate implications. First, as the allocation of foreign exchange was determined administratively, there was no need for the exchange

rate to move in such a way as to equalise demand and supply of foreign exchange. Similarly, the exchange rate did not serve as a regulator for imports and exports since the volume and the commodity composition were all determined by the State through foreign trade planning. In addition, as the central government exercised control of all foreign exchange earnings, there was little incentive for export either from the perspective of the enterprises or of local governments. Domestic producers, except for receiving the payment in domestic currency, had no entitlement to any of the foreign exchange earned from the goods delivered to FTCs. Although they could in some instances apply for the import of necessary key equipment and parts, that would normally involve complex approval formalities. FTCs had no economic incentive to expand exports either, for they gained no explicit claim to any of the foreign exchange earned through export activities as all their foreign exchange earnings had to be sold to the State. In most cases, the only motivation behind their export activities could be viewed as the compelling forces from the mandatory foreign trade plan, fulfillment of which was considered important in the assessment of the political achievements of the managers. Similarly, local governments at various levels, which managed a large share of export-producing enterprises, as well as the major production ministries, had little or no economic incentive to encourage their subordinate firms to produce for export because none of the foreign exchange earnings accrued to their units. Local governments and ministries that sought to import goods had to get their projects approved by the central planning apparatus, most usually the State Planning Commission (Lardy, 1992, 52).

Introducing the foreign exchange retention system, which allowed enterprises to retain a share of their foreign exchange earnings, signified the intent of the Chinese government to give up its monopoly on the control of foreign exchange. It should be noted that retention initially entailed the right to use foreign exchange but did not constitute a foreign exchange allocation by the Bank of China. The funds thereby described were actually held by the Bank of China and could be used only under certain

conditions. Thus the provision of foreign exchange retention in fact corresponds to a creation of import entitlements, and can be seen as a price measure commonly used in Phase Two of liberalisation from the import substitution regime (Krueger, 1978, 44). As a price intervention measure, China's foreign exchange retention system functioned as an offsetting element to the disincentives otherwise provided by Phase Two regimes. Indeed, as discussed later in this section, by permitting enterprises with retained foreign exchange and other authorised holders of convertible currencies to resell the import entitlements created by the retention scheme in the market place, the government rendered the number of units of local currency received per dollar of foreign exchange earnings larger than the official rate, and thereby reduced the degree of discrimination against foreign exchange earnings that would otherwise exist.

The retention system, as an export promotion measure, explicitly targeted the incremental growth of exports. For that purpose, it was made clear by the State Council in its August 1979 Regulations on Striving to Expand Exports and Foreign Exchange Earnings⁷⁸ that retentions for most commodity exports were allowed only from earnings above and beyond the level of exports achieved in 1978. However, as Lardy (1992, 52) has noted, for some new forms of trade that were being introduced in 1979, such as compensation trade, processing and assembly of foreign-supplied parts and components, the retentions were based on all earnings.

The initial structuring of the retention rates reflected two purposes: (1) To give stronger incentives to exploit the new trading opportunities created in 1979; and (2) to emphasise the nature of trade decentralisation and spatial pattern of opening-to-the-outside-world strategy⁷⁹. Thus, the retention rates were differentiated between

⁷⁸ The regulation also approved the implementation of a similar system for sharing in the foreign exchange earnings derived from nontrade sources of foreign exchange such as overseas Chinese remittances, various port fees paid by foreign vessels, earnings from foreign tourism and so forth.

⁷⁹ See Lardy (1992, 53) and Xiao Yuchai *et al.* (1989).

categories of products⁸⁰, the nature of administrative structures concerning the export-producing firms, and sources of product origins. To reduce the complications associated with the rate differentiation, in 1982 the State Council fixed rates for each region that were equal to the share of total export revenues retained in the previous year. This arrangement was essentially based on the differential success of export performance after the foreign trade reform began in 1979, which meant that the provinces that had been more successful in generating export earnings via the new types of trade and had achieved a larger volume of retained foreign exchange obtained higher retention rates (Lardy, 1992, 55). The new provincial rates, which varied from as low as 3 per cent to as high as 25 per cent, giving an average of 8 per cent, applied to most export earnings, regardless of source. But the separate rate for income from processing was retained and raised and special rate of 50 per cent for earnings from the export of machinery and electronics replaced the old system in which retention was set at 30 per cent of the planned level of exports (Yin Ling, 1988, 27).

Subsequent adjustments in the programme of sharing foreign exchange proceeds, while they in general emphasised the need to allocate an increasingly large share of foreign exchange earnings to the export enterprises and their superior levels of government, continued to highlight regional and sectoral preferences⁸¹. The central government in 1985 raised provincial retention rates to a minimum of 25 per cent⁸², and approved retention of one-fourth of earnings from the export of the ten products initially excluded from the system (Lardy, 1992, 55). The State Council also rendered

⁸⁰ Earnings from ten export commodities were excluded from the system. They were grain, steel products, coal, crude oil, refined petroleum products, cement, logs, pig iron, zinc, and edible vegetable oil.

⁸¹ The development of the program after 1987 was directed at serving the implementation of foreign trade contractual responsibility management system, a topic to be dealt with in the next section.

⁸² By 1986 retention rates for foreign exchange earnings from trade ranged from 25 per cent for most of the country to as high as 100 per cent in the four SEZs- Shenzhen, Zhuhai, Shantou, and Xiamen- and the four development zones- Hainan, Huangpu, Guangzhou, and Xijiang (Lardy, 1992, 56).

preferential treatment to four autonomous regions- Inner Mongolia, Xinjiang, Guangxi, and Ningxia- and three bordering provinces including Yunnan, Guizhou, and Qinghai. These localities were permitted to retain half of their foreign exchange earnings rather than the more common rate at that time (25 per cent). This special treatment was largely a concession to the relatively less developed regions which were believed to be disadvantaged by the skewed development pattern of the open policy (Xiao Yuchai *et al.*, 1989).

By 1985 the state had introduced a two-tier system in which a distinction was made between planned exports and above-plan exports with respect to retention rates. Whilst the basic retention rate (25 per cent in most of the provinces) continued to be applied to the amount up to the plan targets, 70 per cent of the above-plan export could also be retained (HFERTC, 1990, 14; Sun Wenxiu, 1989, 55). One point should be specially noted about the distribution of the retained share of foreign exchange income. According to the relevant policies of the central government, half of the retained income should go to the enterprise producing the exports and half to the level of government that managed the enterprise. But in practice various localities took widely-ranging approaches to the issue. In some provinces, the local governments allocated all of the retained earnings to the enterprises, while in others the local government took half of the amount. Still in others, the local governments kept majority to themselves. For example, in the three localities included for analysis, Hubei was the case in which the provincial government took away a large amount of the retention that belonged to the export-producing enterprises. This led to complaints from the producing units and their governments. In Zhejiang and Shanghai, the provincial and municipal government strictly observed the fifty-to-fifty rule (HSEDRC, 1991, 27). The actual approaches the localities took to distributing the retained foreign exchange reflected at least the general attitudes towards the role of expanding exports in the development of economy. Hubei's case showed in general that the provincial government was not as committed and

dedicated to trade promotion as the governments in Zhejiang and Shanghai (HSEDRC, 1991, 19).

The changes to the retention system after 1987 were coordinated with implementation of the Foreign Trade Contractual Responsibility System. In 1991 when a responsibility system was implemented to replace the contracting system in foreign trade, the state overhauled the system in an effort to remedy problems that had occurred in the first ten years the system was in force. To eliminate the impact of unequal competition caused by the existence of differentiated retention rates, the state equalised the provincial retention rates in 1991 (Zhou and Ma, 1993, 109).

As a result of implementing the foreign exchange retention system for ten years, the local governments and export-producing enterprises gained control of a large amount of foreign exchange⁸³. The value of the funds retained was greatly enhanced by the establishment of foreign exchange adjustment centres in which enterprises with retained export earnings and other authorised holders of convertible currencies could swap these for domestic currency. China's foreign exchange adjustment was derived from the system of foreign exchange retention. As mentioned above in the beginning of this subsection, under the traditional system, there was no need for a foreign exchange market to exist as the government used to allocate foreign exchange vertically through administrative mechanism. However, with the introduction of the foreign exchange retention programme, adjustment was necessitated by the unbalanced distribution of retained foreign exchange caused by either the differentiated retention rates or different

⁸³ Retained foreign exchange was US\$ 854 million in 1979, accounting for 6.5 per cent of the total export earnings; and rose to US\$1,579 million in 1980, amounting to 9 per cent of that year's total export income (Sun Wenxiu, 1989, 54). The magnitude of the funds retained expanded significantly in subsequent years with repeated adjustments of the programme favouring localities and productive enterprises (Lardy, 1992, 54). By the end of 1989, an accumulative amount of 97.2 billion American dollars of foreign exchange had been allocated to localities and enterprises producing for exports (Liu Xiangdong *et al.*, 1993, 456).

levels of export performances. There were some localities and exporting enterprises who had gained control of a large amount of foreign exchange but were unable to use all of it either because they were not entitled to have the required import licence or because they did not identify the import demand. There were other regions and export-producing firms which identified the import demand but did not have the foreign exchange. Under these circumstances, provision of adjustment would meet the needs of both sides.

Foreign exchange adjustment centres were an outgrowth of policy changes in October 1980 when the State Administration of Exchange Control (SAEC) and the Bank of China issued "The Notice Concerning the Experimentation of Foreign Exchange Adjustment" and "The Interim Methods of Implementing Foreign Exchange Adjustment". Following the establishment of a foreign exchange adjustment centre in Guangzhou in early October 1980, Bank of China branches in 11 major Chinese cities inclusive of Beijing, Shanghai, Dalian and Qingdao began foreign exchange transactions at about the same time (Yin Yanling, 1993, 56). These were the earliest instances of foreign exchange transactions and the pioneering forms of foreign exchange markets in China. The policy formation concerning foreign exchange transactions evolved rapidly in the 1980s⁸⁴. Two incidents contributed significantly to the progress of policy formation: The decision of the central government in early 1986 to speed up the pace of utilising foreign investment sanctioned the presence of foreign-investment firms in the

⁸⁴ After the issuing of the October 1980 Interim Methods on Foreign Exchange Adjustment, the SAEC and Bank of China in 1981 published "Interim Methods on the Adjustment of Foreign Exchange Retention Rights". Later in March 1986, the SAEC promulgated "Several Regulations on Handling Adjustment of Retained Foreign Exchange" permitting both state-owned and collective enterprises with retained foreign exchange to sell their excess foreign exchange to those state-owned and collective firms who would need them through foreign exchange administrations. In October of the same year, foreign-investment enterprises were allowed to swap their retained foreign exchange among themselves as a measure to encourage foreign investment. The SAEC in 1988, in accordance with the State Council's "Regulations on Various Issues Concerning Accelerating and Deepening Reform of the Foreign Trade System", issued "Regulations on the Adjustment of Foreign Exchange" which was designed to facilitate the implementation of the foreign trade contracting system (Liu Xiangdong *et al.*, 1993, 456).

swap markets; while the implementation of the foreign trade contracting system helped standardise the operation and management of exchange adjustment, and thereby paved the way for the development of nation-wide foreign exchange markets and facilitated foreign exchange transactions. The number of markets grew dramatically in the latter part of the 1980s following the establishment in 1985 of the Shenzhen Special Economic Zone Swap Centre the first formally sanctioned foreign exchange swap market in China. In November 1986, one month after the official permission to let foreign-funded firms to enter foreign exchange markets, the Shanghai Foreign Exchange Adjustment Centre began operation, offering services to foreign invested enterprises. By 1988, the presence of foreign exchange swap markets had been observed in all provinces, cities with independent planning status, SEZs and major coastal cities (Liu Xiangdong *et al.*, 1993, 456). In 1989 the number of markets expanded to about eighty across the country (Lardy, 1992, 61), and reached nearly one hundred by mid-1993 (Yin Yanling, 1993, 57). The scale of foreign exchange transactions also grew markedly over the same period. The annual transaction volume, which was only around a few million hundred dollars in the early 1980s, jumped to US\$6.3 billion in 1988, accounting for 33.85 per cent of all exchange retained in that year. Of the total turnover in 1988 foreign-investment firms transacted US\$662 million, approximately 10 per cent of the annual transaction volume. 1989 saw a 36.8 per cent increase in transaction volume over the prior year with the yearly transaction volume reaching US\$8.6 billion, of which approximately US\$1.6 billion involved foreign-investment enterprises. In subsequent years the volume of transactions climbed more rapidly. By 1991 the annual transactions amounted to as much as US\$20.4 billion (Yin Yanling, 1993, 57).

The establishment of foreign exchange swap markets, allied with the introduction of foreign exchange retention rights, enhanced the value of retained foreign exchange. As discussed in the beginning of this sub-section, the opening of foreign exchange swap markets provided a venue where export-producing enterprises and other lawful holders of foreign exchange could swap their excess foreign exchange funds for domestic

currency to their satisfaction. In addition, the price at which foreign exchange changed hands in the transaction centres was far more favourable than the official exchange rate for exporters, providing an additional incentive to sell goods in international markets. In effect, introducing foreign exchange trading rights constituted a de facto devaluation of the yuan.

4.4.5 Exchange Rate

Over the entire period 1953-1979, the exchange rate of the Renminbi was not used to regulate trade but merely taken as an accounting unit for foreign trade planning and an instrument for settlement of invisible trade transactions⁸⁵. The exchange rate remained overvalued and virtually unchanged until the late 1970s when reform began⁸⁶. By then people had begun to realise that it was inadvisable to maintain a stable exchange rate and a reasonable exchange rate could have become one of the key elements of trade policy and export promotion strategy in China with the decentralisation of export and import decisions to enterprises. In August 1979 the State Council decided to revise China's exchange rate policy. The exchange rate adjustment, as specified by the new exchange rate policy, was to be made in such a way as to, in the short-run, make the exchange rate approximate and reflect the actual domestic currency cost of earning one American dollar in export sales. This would ensure that the price

⁸⁵ The fact that foreign trade (in terms of both volume and patterns) was subject to mandatory planning was the main reason that the exchange rate was not utilised as the regulator.

⁸⁶ Overvaluation of yuan was inherited from the pre-reform exchange rate policy. In the early 1950s when the exchange rate was determined primarily on the basis of the relative prices of a basket of consumer goods in China and in major cities of the world, a substantial overvaluation of the yuan occurred as many basic consumer goods in China were underpriced due to state subsidies. This overvaluation persisted over the whole period 1953-1979 (Lardy, 1992, 67; Liu Xiangdong *et al.*, 1993, 460). The exchange rate of Renminbi remained virtually fixed from 1953 to 1971, after which it was adjusted steadily upward vis-a-vis the American dollar in response to changed financial environment that resulted from the collapse of the Bretton Woods system. The value of yuan during this period appreciated from 2.46 per dollar in 1971 to 1.49 per dollar by the end of 1979 (Zhou and Xie *et al.*, 1993, 201-202).

paid by potential importers to purchase foreign exchange for import payments would be at least as much as the average domestic costs of exporters. In the long-run, this would direct the exchange rate toward that level for which the country's earnings from the exports of goods and services are sufficient to meet all its imports needs when import and export decisions are made by independent enterprises which assume responsibility for their profits and losses (Zhou and Ma, 1993, 187).

At the end of 1980 the central government decided to institute an internal settlement rate in trade transactions starting on January 1, 1981. The internal settlement rate, which was set at 2.8 yuan against the dollar, was essentially based on the 1978 average cost of earning foreign exchange in the international market⁸⁷. This rate was to apply only to trade transactions. Foreign exchange income from nontrade transactions, most notably foreign remittances and tourism earnings, continued to be converted to yuan at the official rate (Yan Yinglin, 1993, 38). Implementation of the internal rate was thus equivalent to a dual exchange rate system in which one rate applied to trade and another rate applied to nontrade transactions⁸⁸.

The adoption of multiple exchange rates, as Krueger (1978, 25-37) expounded, is a price measure commonly used in the early phases of trade liberalisation. The institution of the internal settlement rate in trade transactions, however, was to provide incentives for exporters by reducing the domestic currency losses incurred in foreign

⁸⁷ The internal settlement rate was composed of two components: The average domestic cost of earning one dollar in 1978, which was 2.53 yuan, and a 10 per cent expected profit margin (Yin Yanling, 1993, 35).

⁸⁸ In retrospect, choice of this dual rate system was in part out of the concern for the nontrade foreign exchange earnings. In adopting this arrangement, the Chinese government was aware of possible external reactions but they did not expect much pressure from international governments in response to this measure as the Chinese economy was not significantly involved internationally.

transactions⁸⁹. In the closing years of the 1970s most commodity exports incurred significant financial losses measured in domestic currency. This was due to the fact that the domestic price of foreign exchange was too low to cover the domestic cost of exports (Lardy, 1992, 25). In 1980 the net trade losses (after offsetting the export losses with the profits on imports) in terms of domestic currency were at an all-time high of over 3 billion yuan⁹⁰. As a consequence MFT required a separate financial allocation from the State Treasury to cover the losses incurred on foreign trade transactions. These unanticipated financial losses appeared to have contributed significantly to the state's budgetary deficit in 1980 (Lardy, 1992, 67). Trade balances incurred substantial deficits for three years after 1978 (State Statistics Bureau, 1992, 627). The adoption of the internal settlement rate improved, though not significantly, the trade balance and the balance of payments position. Imports and exports almost balanced the first year the internal settlement rate was adopted. In the two subsequent years the trade balance turned out to be favourable (Yin Yanling, 1993, 85). As a result, foreign exchange reserves increased markedly. By the end of 1983 foreign exchange reserves had increased by a factor of 7 compared with 1980 (Zhou and Ma, 1993, 187).

But the introduction of the internal settlement rate failed to resolve the problem of domestic currency losses on foreign trade. On the export side, the incentive of the de

⁸⁹ In fact, as it was the state rather than FTCs that were financially responsible for the outcome of foreign trade operations, FTCs were not really concerned about their domestic financial losses, which were fully covered by the state's export subsidy programme. Thus the first policy objective was to lessen the financial dependence of exporters on the state. From the stand of FTCs, the direct benefit was the fact that the internal settlement rate which reduces the value of the domestic currency made it easier for them to achieve their planned export targets.

⁹⁰ In the 28 years from 1953 to 1980 there were 19 years in which foreign trade as a whole turned out to be profitable. Trade losses were witnessed during 9 years: 1959-1960, 1962-1965, 1975-1976 and 1980. During this whole period, on a cumulative basis, for China as a whole trade profits more than offset the entire trade losses by 16.4 billion yuan which was turned over to the state in the form of profits. In addition, MFT returned 29.8 billion yuan to the State Treasury in import duties (Wang Shaoxi, 1994, 145).

facto devaluation of yuan changed exporting, on the whole, from a loss-making to a profitable activity for foreign trade enterprises, at least temporarily. According to Wu Xihua (1987, 36), profits on exports in 1981 were at an all-time high of more than 8 billion yuan. However for a large number of products the extent of the devaluation of the yuan was insufficient. For example, the average domestic cost of earning a dollar in the light industrial and textile sectors was above the level of the internal settlement rate in 1981 (Yin Yanling, 1993, 82).

The incentive to exports established by the internal settlement rate was short-lived due to domestic inflation (Zhou and Ma, 1993, 188). From 1982 for China as a whole the number of export products requiring subsidies began to grow rapidly. The number of money-losing export commodities, rose from 1,038 in 1982, to 1,783 in 1983 (Ma and Sun, 1988, 307). The total financial losses on exports that year ran to 5.2 billion yuan despite the devaluation of the yuan and the rebate of billions of yuan of indirect taxes paid on export goods (Lardy, 1992, 101). Losses on exports fell sharply in 1984 to only 30 million yuan because of the decrease in the cost of earning a dollar of foreign exchange resulting from the new prohibition on exporting high cost items and significant increases in the sale of crude oil on world markets (Lardy, 1992, 101). In 1984 the central government took stringent administrative measures to block the export of commodities whose domestic costs were significantly above the internal exchange rate.

On the import side, the adoption of the internal settlement rate of 2.8 combined with a modest increase in the international prices of imported goods reduced import profits so much that imports were at a loss in 1981 (Lardy, 1992, 72). Some 80 per cent of the import losses, roughly 9 billion yuan, of that year, were accounted for by the importation of the commodities for which domestic pricing remained unchanged with the de facto devaluation of the yuan. The central government continued to be committed to subsidising so that they could be sold at the same price as comparable domestic

goods⁹¹ (Wu Xihua, 1987, 32). The rest of the losses were widespread. The losses on imports more than offset the gains in profits on exports. China continued to experience a net financial loss, in terms of domestic currency, of about 2 billion yuan in 1981. By 1983 China incurred losses on seventeen of its twenty-two most important imported commodities (Ma and Sun, 1988, 307), and the total net financial losses measured in domestic currency amounted to a historic high of about 10 billion yuan (Yin Yanling, 1993, 81). To improve the overall efficiency of foreign trade, MOFERT decided in 1984 to accelerate trade decentralisation by actively encouraging the use of the import and export agency system⁹². An important function of the foreign trade agency system was to improve the management of trade by changing the responsibilities of the parties involved. More importantly, introducing the agency system constituted a major step to free the domestic pricing for tradables in an effort to remove the airlock system that traditionally had insulated China from the world economy.

⁹¹ The imported goods which were priced domestically according to the principle of comparable domestic products accounted for about 80 per cent of 1981 imports. In addition to the five state-controlled imported items: grain, cotton, sugar, chemical fertiliser, and pesticides, which caused losses of 8,826 million yuan, there were many imported items which continued to be priced domestically, on the basis of the official exchange rate, with a modest premium. For example, machinery and electrical equipment imported from the West were subject to conversion from international to domestic prices at the official exchange rate plus a 10 per cent premium (Lardy, 1992, 71). On these items the incurred losses measured in domestic currency were reflected in the entire import losses of the Ministry of Foreign Trade. Thus the internal settlement rate of 2.8 appeared to have only affected the domestic cost of goods that were imported through the agency arrangement in which FTCs simply acted as the agent of the importers who were responsible for their own profits and losses. The domestic prices of goods imported under the agency system were based on the entire import costs including the exchange rate, customs taxes, product taxes or value-added taxes, bank charges and the handling fee for the agent. The agency system involved about one eighth of China's imports in 1981, and some one third by 1984. By 1986, after two-years campaign for price liberalisation of traded goods, about 80 per cent of the imports in China had been handled through the agency system. The portion of imports whose prices were based on the full import costs further increased after 1986. By mid-1990 approximately 90 per cent of China's imports were subject to the import agency price formation. Only 8 important commodities continued to be arranged under the old system (Lardy, 1992, 73-77).

⁹² See IBRD (1988, 21).

Over the four years the internal settlement rate was in force, China experienced a modest level of inflation. As a result, by the end of 1984 the original active role of the internal settlement rate had been completely eroded by the rise of the domestic cost of exports. In 1985 China abolished the dual exchange rate system and reintroduced a unitary exchange rate system with the official exchange rate stepping up with the previous internal settlement rate level. That was largely a consequence of strong external pressures from the International Monetary Fund (IMF) and the main Chinese trading partners. But the direct objective was to improve the trade balance and the balance of payments position which was found to be deteriorating due to the overheating of the domestic economy (Liu Xiangdong *et al.*, 1993, 462). However, as the newly sanctioned official exchange rate of 2.8 had already been overvalued even at the time of devaluing in early 1985, it was evident in the late part of 1985 that this rate level had little effect on the trade balance and the country's balance of payments. The central government at the end of 1985 modestly adjusted the exchange rate to 3.2 yuan per dollar (Zhou and Ma, 1993, 188). This adjustment was neither sufficient to change the financial status of FTCs nor effective in encouraging exports.

In the face of rising import demand, in early 1986 a large deficit for that financial year in the balance of payments appeared to be unavoidable unless exports were strongly boosted and the "import hunger" was effectively halted. This once again raised the issue of the foreign exchange rate as the then prevailing exchange rate of 3.2 per dollar was far from sufficient to support this export programme and restrict the increasingly large import demand. In the summer of 1986, in response in part to advice from IMF, the Bank of China on July 5, 1986 announced a 15.8 per cent devaluation of the Renminbi against all foreign currencies so that the rate of the yuan against dollar

stood at 3.7006⁹³, the nominal value of yuan against the dollar being well under half compared to 1980 (Liu Xiangdong *et al.*, 1993, 462; Lardy, 1992, 114).

With regard to this devaluation and the one in late 1985, an assessment of their impacts on economic behaviour is difficult although the rules for devaluation evaluation are well-established theoretically⁹⁴. The first difficulty is associated with the time duration in which the adjusted exchange rate was in effect. This was particularly a problem with the late 1985 adjustment. The adjusted exchange rate of 3.2 yuan only lasted about half a year. Such a short interval would render an accurate evaluation of the effects of the devaluation impossible because the interval was just too brief for the effects of that devaluation to be felt. Similarly, analysis of the effects of the August 1986 devaluation is also extremely demanding. This is mainly due to the complication related to the detailed workings of other policy tools which had preceded and/ or accompanied the devaluation⁹⁵. An accurate evaluation of the economic impact of this devaluation thus requires separating its consequences from those generated by other policy measures. Another source of complication is related to the assessment of the importance of economic agents' expectations in explaining economic behaviour (Krueger, 1978, 51). These expectations, in the case of China's 1986 devaluation, could have been triggered off by moves such as the news of the deteriorating foreign exchange position, which tightened licencing control of imports.

A second problem is linked to domestic price changes. Beginning from 1985 China experienced a higher rate of inflation. The inflation rate for 1985 was 8.8 per cent, and 6

⁹³ The extent of decline in the value of the domestic currency against the currencies of other major trading partners varied. The depreciation against the yen, for example, was even greater, due to the fall in the value of the dollar against the yen in the first half of the 1980s, while depreciation of the yuan against the British pound and the Hong Kong dollar was far less (Lardy, 1992, 114).

⁹⁴ In the framework of Krueger (1978), these two devaluations signified China's progression into a Phase III episode and represented a sizable step toward liberalisation of the trade regime (pp. 26-40).

⁹⁵ For a review of these policies see Xiao Yuchai *et al.* (1989); Chen and Wu (1989).

and 7.3 per cent for the two subsequent years respectively with a three-year cumulative rate amounting to 22.1 per cent. As a consequence a large portion of the nominal devaluation of the yuan discussed above was required to offset domestic inflation diminishing the effects of the devaluations. On the other hand, devaluation in such an inflationary environment gave rise to an issue that frequently concerned the government and economists in China. That is, to what an extent would devaluation of the domestic currency influence the domestic price level? Chinese policy in the 1980s was based on the view that the ratio of imports to Gross National Product was relatively high, so that the effect of devaluation on the domestic price level would be substantial. This was reflected in the July 1986 devaluation, which, as noted above, cut the value of yuan by 15.8 per cent. That margin was much lower than that proposed by the Chinese economists⁹⁶. Many Chinese writers held the same view as the government. They regarded exchange rate devaluation as an ineffective policy instrument⁹⁷.

We would tend to modify this conclusion by looking at this issue from another perspective. The increases in the prices of export goods following the two adjustments were attributable to two factors. They were in part due to the rise in the general domestic price level which resulted from the increase in the domestic price of imported items, and in part because of the fact that foreign trade corporations competitively increased the purchasing prices of export goods as devaluation had made exports profitable. The real problem was that the slow pace of reform in the domestic pricing of traded goods substantially inhibited the effect of exchange rate adjustment. Thus as Zhao Shengting (1987) concluded, for devaluation to be effective in China's context, exchange rate policy needed to be coordinated with domestic reforms, particularly in pricing, and a reduction in the coverage of mandatorily planned exports and imports.

⁹⁶ See Zhou and Ma (1993) for a brief discussion.

⁹⁷ See Zhou and Ma (1993, 194-195); Li Debin *et al.* (1990) for a review of the issue.

The exchange rate of Renminbi remained unchanged from mid-1986 through to the end of 1989 in the apparent belief that devaluation would contribute to domestic price inflation. In December 1989, the Bank of China announced a further devaluation of 21.2 per cent in the value of Renminbi vis-a-vis the dollar. Two factors combined to lead to that devaluation. The first factor was of course domestic inflation. The inflation rate, after remaining at around 6-8 per cent between 1985 and 1987, accelerated in 1988 and 1989. The domestic price level, given by the overall retail price index, increased by 18.5 and 17.8 per cent for the two years respectively (State Statistics Bureau, 1992, 235). As a consequence, the domestic cost increase of many export goods was dramatic, and in many instances significantly over-offset the extent of the 1986 exchange rate adjustment. For example, the domestic cost of earning foreign exchange of about 42 per cent of export goods in Hubei Metals and Minerals Import and Export Corporation was in the range between 4.5 yuan and 4.8 yuan in 1988. After deducting domestic tax rebates and other export-related benefits including export subsidies, the firm still lost 0.25 yuan per dollar worth of exports (HFERTC, 1989, 13).

Another reason was associated with the implementation of the contractual responsibility system. In 1988, when structuring the contracting system, the central policy-makers set the key elements on a stationary basis. The three targets to be achieved by the contractors, as assigned to the foreign trade corporations in 1988, were to remain fixed for the subsequent two years. However, due to severe domestic price inflation, the planned export subsidies and the envisaged capacity to offset potential export losses from foreign exchange retention were inadequate to offset the actual losses on exports which resulted from increased costs⁹⁸. For China as a whole the total losses

⁹⁸ As discussed in the next section, the foreign trade contractual responsibility, as an attempt to ease the rising demand for financial subsidies, largely rested on the capacity of increased portion of retained foreign exchange to meet the burden of the rising cost of earning foreign exchange. However, in reality, that ability was curtailed mainly because of two factors. A first reason was that the contractual targets, which were set at the actual levels of the prior year, were over-placed, particularly for those localities whose export growth had been explored such that the potential to sustain rapid growth would be slight

of trade amounted to nearly 30 billion yuan in 1988, the first year foreign trade contracting was implemented (Yin Yanling, 1993, 86). This greatly challenged the contracting system. Two policy tools were available to the central government. They could either modify the targets for contracting or resort again to devaluing the yuan. But in the end, the decision was made in favour of exchange rate adjustment. The main reason that the government abandoned the alternative was the fear that the adjustment of the targets would weaken the base of self-responsibility defined by the contracting and add further to the burden of the State Treasury (Zhou and Ma, 1993, 190). In November 1990, the exchange rate was again devalued by 9.57 to 5.22 yuan per dollar. These two changes offset the price inflation.

Soon after the abolition of financial subsidies in early 1991, China introduced a managed floating exchange rate system. The Chinese government took that initiative as a step towards the basic requirement of restoring China's position as a signatory state in the GATT. The Chinese saw it as important to gain official access to GATT. Having emerged as a main trading nation, China wished to strengthen trade relations with its main partners through this multi-level arrangement. In recent years as the government has been more firmly committed to market-oriented reforms and internationalisation, rejoining GATT has naturally been pursued not only as a means of integrating the Chinese economy with the international system but also as measure to accelerate domestic economic reform. Moreover, the abolition of trade subsidies and the effort to push the exchange rate towards a more realistic level are both designed, among other

(HFERTC, 1989). Take Hubei province for instance. The provincial exports, which grew rapidly before 1987, slowed down markedly in 1988 due to rising cost of exports. That significantly constrained the province from gaining the above-target portion (80 per cent of foreign exchange earned) of exchange retention, thus diminishing the role of retained foreign exchange in offsetting the rising cost of earning foreign exchange. Secondly, the market value (the swap rate) of foreign exchange fell steadily after mid-1989 as a result of further devaluations of the official exchange rate, domestic austerity programme introduced in late 1988 and increased supply of foreign exchange on the market. That reduced the revenue from selling retained foreign exchange (Lardy, 1992, 109).

objectives, to enable FTCs to compete with each other on an equal basis and assume the responsibility for their gains and losses (Wang Jianmin, 1992, 36).

It is important to note that the managed floating system in the presence of foreign exchange control as used in China was fundamentally different from the managed floating exchange rate system in the broad sense and the main differences were derived from the nonconvertability of the Chinese yuan. In addition, due to the controlled nature of the foreign exchange system, a dual system of exchange rates existed consisting of the official exchange rate and the swap rate in adjustment centres. However, the adoption of the floating exchange rate reflected China's determination to move towards a unitary exchange rate. That unification came just three years later⁹⁹.

4.5 Contractual Responsibility System

As discussed in the previous section, from 1979 to 1987, the efforts of the central government to reform the traditional foreign trade system were designed to achieve two major objectives: (1) to decentralise foreign trade decision-making to enterprises through decentralising foreign trading rights to foreign trade enterprises other than the national FTCs, introducing new types of trade and improving the management mechanisms for foreign trade; and (2) to direct foreign trade regulation towards market orientation. through these measures and increasingly using "economic levers" such as exchange allocation facilities and exchange rates, domestic tax and financial devices.

⁹⁹ On January 1, 1994, China introduced a new exchange system. Under the new system, the exchange rates were unified at the prevailing swap market rate on January 1, 1994. In the meantime, the retention system was abolished, although enterprises may continue to use their outstanding quotas to purchase foreign exchange at the official exchange rate prevailing at the end of December 1993. For a detailed discussion see Wanda Tseng *et al.* (1994, 8), Wang Zixian (1994) and Sun Mingchun (1994).

However, due to the constraints from domestic reforms, those reform measures not only failed to resolve some of the inherent problems in the old system but invoked some new difficulties. For example, macro-economic policy packages failed to provide an effective mechanism for foreign trade so that the trade pattern did not reflect the rule of comparative advantage. The foreign trade agency system, which was designed as an important measure to replace traditional pricing arrangements that had for decades insulated domestic producers from international prices, spread slowly, particularly regarding exports¹⁰⁰. The differentiated retention rates that existed across regions and sectors had resulted in unequal competition and operational disorder. But the most serious issue concerned the efficiency of foreign trade. From 1981 onwards the value of the yuan fell steadily. The government had hoped that devaluation of the domestic currency, combined with other measures such as rebates of domestic taxes to exporters, would provide an effective mechanism for eliminating the bulk of financial losses on both exports and imports. However, the outcome contrasted sharply with that expectation. By 1987 foreign trade enterprises were still far from being able to bear the sole responsibility for their profits and losses and had to be kept alive with subsidies¹⁰¹.

As an attempt to prevent demands for financial subsidies from rising, in late 1987 the central government decided to implement the "foreign trade contractual responsibility system", to be effective from the beginning of 1988¹⁰². Under the system, the national FTCs and the government administrative departments at provincial level

¹⁰⁰ See Lardy, 1992, 76-79 for an brief discussion.

¹⁰¹ See Lardy (1992, 102); Wu Xihua (1987).

Many Chinese writers (see, for example, Wang Shaoxi, ed., (1986), Wang Shaoxi *et al.* (1989) Huang Jianping (1987) supported the view that the financial losses on foreign trade transactions were "false losses". They saw these losses as "policy losses" because of domestic price distortions and exchange rate overvaluation. Thus for the losses to be eliminated, efforts should be directed towards improving the macroeconomic environment for foreign trade.

¹⁰² State Council, 1987, *The Programme on 1988 Foreign Trade Reform*. This document can be located In Hubei Foreign Economic Relations and Trade Commission Archives.

entered into foreign trade contracts with the state. The contracts specified three targets: the quantity of export earnings, expressed in foreign exchange; quantity of foreign exchange to be remitted to the central government; and the level of profits and losses in foreign exchange transactions, measured in domestic currency. These targets would remain unchanged for three years.

The move toward the contracting system was prompted by the intention of the central government to further liberalise the foreign trade regime. From the stand of Chinese policy makers, expansion of trade had to be rested on the premise that foreign trade enterprises would assume sole responsibility for their gains and losses by using decentralised trading arrangements such as the agency system and integrating industry with trade, under unified foreign trade polices¹⁰³. But it was clear that further improvements in this direction were largely dependent on additional internal reform measures since reform of foreign trade and the exchange system in late 1990 had outpaced reform of the domestic economy. Achievement of economic rationality by decentralising trade decisions required more far-reaching domestic pricing reforms to eliminate distortions in the domestic price structure. The exchange rate was of course the single most important price to get right. Unfortunately, given domestic conditions, that type of domestic reform was not forthcoming. Under those circumstances, the contracting system was selected as a sub-optimal policy instrument to promote exports and tighten the budget constraints on foreign trade enterprises.

Two key features of the system have provided an illustration of the above policy orientation. As a provision of incentive for exporters, the system permitted contract holders to retain a large share (which was 80 per cent) of the foreign exchange they earned that was above the basic contractual amount while retaining the initial portion for the foreign exchange earnings that were within quotas (Liu Xiangdong *et al.*, 1993, 13).

¹⁰³ See Zhou and Ma (1993, 107-108).

In addition, the arrangement specified the maximum amount of domestic currency subsidy the central government would provide and made it clear that the contracting party would be responsible for all losses in excess of the contracted amount while allowing them to retain any surplus if losses were reduced below the plan level¹⁰⁴. This arrangement was an attempt by the central government to impose a hard budget constraint on foreign trade transactions and hence preventing local governments from undermining the Central Treasury.

The contractual responsibility system, introduced as an interim measure in the course of the foreign trade reform, was the product of a bureaucratic compromise between the central and provincial governments. In reality it did in a sense stem the magnitude of financial losses but failed to provide an effective solution to the problems of unequal competition and disorder in foreign trade management as these problems stemmed from differential treatments, across regions and sectors, in terms of foreign exchange retention rates and different contracted targets. In the totality, the actual outcome of the arrangement in many instances diverged from the goals initially set by the designers. However, there was at least one positive element contained in the system. The localities in the end came to view foreign trade as an indispensable part of their economy, as a result of the three year implementation of the contracting system.

In 1991 the central government replaced the contractual responsibility system with the responsibility system, which was applied, on a limited basis, to three sectors: light industry, arts and crafts and garments industry. A key feature, as distinguished from the prior scheme, was that a large part of foreign currency earnings was to be retained by the foreign trade enterprises and a small part was turned over to the central government. Foreign trade enterprises became independently responsible for their profits and losses with the abolition of financial subsidies.

¹⁰⁴ See Lardy (1992, 102) and HFERTC (1989).

4.6 Conclusion

The series of foreign trade reforms were introduced in recognition of the need to improve the efficiency of resource allocation through participating in international specialisation. Given the absence of an overall economic reform blueprint, the institutional reforms in foreign trade were inevitably incremental and piecemeal. Despite all the weaknesses and drawbacks that presented themselves in the reform process, the partial reforms over the entire post-reform era supported rapid growth in exports, consistent with China's potentially large gains from specialising in labour-intensive production.

Decentralisation of foreign trade decisions to the foreign trade enterprises, which was the key element of the reform efforts through the period of 1979-1987, was consistent with the central thrust of the domestic reforms of decentralising production and investment decisions to productive enterprises. This measure greatly reduced the state monopoly control of foreign trade exercised through the national FTCs. It helped realise the potential benefits of increased international contacts of Chinese producers.

The reforms, from 1987 to 1990, in the form of contracting, were an attempt to stem the magnitude of export financial subsidies so that in the longer run foreign trade enterprises would be able to assume sole responsibility for profits and losses. Given the then prevailing domestic macroeconomic environment and the strength of export planning, that reform in the totality failed to achieve its policy objective. However, the experience from that reform was valuable to the Chinese policy-makers. The message from that experience was that foreign trade enterprises would not respond to policy changes rationally unless the planning restrictions and soft budget constraints were eliminated. For that purpose, domestic reform of the pricing system and changes in the financial regimes within the foreign trade sector would be the top priorities on the reform agenda. This conclusion shares much with the experience of some of China's Asian neighbours, and strongly supports the generalisations that trade theorists have

generated concerning the desirable sequencing of reform: that domestic reform should precede the international.

The efforts of the government since 1991 have been substantially prompted by the understanding of the above experience, and reflected their further commitment to subjecting Chinese economic activities including external trade to market forces. This generalisation was evidenced by the official endorsement of the market economic system in late 1992 and subsequent developments in spheres of the exchange rate policy and export planning which accelerated the pace of further decentralisation in trade decision making¹⁰⁵.

¹⁰⁵ The reform of foreign trade system achieved a sizable step in early 1994 with the occurrence of the following incidents: First, the government abolished the dual system of exchange rates and subjected the determination of the exchange rate of the yuan to market forces; and at the same time, the state restructured the allocation mechanism for foreign exchange by abolishing the foreign exchange retention arrangement and introducing a banking settlement system to replace the formerly existing administrative allocation mechanism. Under the new arrangement, the Renminbi is subjected to restricted free convertibility for the current account; second, the state removed the command import and export plans. As of 1994, the total volumes of imports and exports, the quantity of foreign exchange earnings through exports, and the import demand for foreign exchange were to be subjected to regulation through guidance plans; finally, the enterprises were to implement modern corporate systems of ownership and management as a further step to delineate the behaviour of the trade firms (Wang Zixian, 1994, 3-5).

CHAPTER 5

ECONOMETRIC MODELLING AND ESTIMATION

5.1 Introduction

The purpose of this chapter is to present some evidence bearing on a set of economic hypotheses relating to economic growth in China. To be consistent with the analytical scope of the previous chapters, we will proceed with the empirical investigation by concentrating on both the aggregate and the three regional economies over the period 1978-1993.

This chapter is organised as follows. Section 5.2 presents the analytical framework and specifies the model to be estimated. Particular efforts are to be taken in spelling out the estimating procedures. In this connection, we will give attention to the formulation of a SURE model with respect to the underlying assumptions and estimation rules. Analytically, we also outline some of the basic rules concerning Ridge Regression as such a technique is utilised as a remedial solution to the problem of multicollinearity detected in the sample. Section 5.3 describes the nature of the data used in the empirical analysis and the limitations of these data. Section 5.4 presents the empirical results. These results will be compared with those generated from the existing empirical studies that have focused on similar issues. The findings are summarised in the final section (5.5) and the possible policy implications drawn from this study are discussed.

5.2 Model Specification and Estimation

5.2.1 Econometric Modelling

There has been considerable literature on the relationship between foreign trade and

economic growth¹. At the theoretical level, major efforts have been recently associated with the resurgent academic interest in formulating endogenous models linking trade, technical change and economic growth. Empirically, many attempts have been made to examine the trade-growth (or export-led growth) hypotheses, including the often-cited (in alphabetical order) studies by Balassa (1978), Cottani *et al.* (1990), Dollar (1992), Edwards (1988), Feder (1982), Michaely (1977), Ram (1985) and Tyler (1981), among others. Some more recent contributions involve China directly, including Bell *et al.* (1993), Chaudhri *et al.* (1992), Chaudhri and Wilson (1994). Despite the variation in terms of specifications of the trade-growth nexus, these studies have in general provided evidence supporting the hypothesis that international trade has a positive influence on the rate of economic growth.

For the purpose of this study, we specify log-linear relations of the form:

$$LY_t = \beta_0 + \beta_1 LEXP_t + \beta_2 LIMP_t + \beta_3 LIP_t + \beta_4 LGP_t + \beta_5 LSOE_t + u_t \quad (5.1)$$

where : LY represents the log of GDP per capita

LEXP represents the log of exports per capita

LIMP represents the log of imports per capita

LIP represents the log of investment per capita

LGP represents government expenditure per capita

LSOE represents the share of state-owned industrial production in total industrial output.

This specification is in the spirit of endogenous growth theory in that technical change is assumed to be an endogenous process and a crucial factor of long-term economic growth. It reflects the analytical framework and theoretical contentions set

¹ See Chapter 2 for a brief review.

forth in Chapter 2 and resembles the main observations that have been made in Chapters 3 and 4, concerning the particular workings of the Chinese economy.

Exports and imports per capita are treated separately as explanatory variables (*LEXP* and *LIMP*), and also combined as the trade (*LTDP*) variable. They are expected to capture Corden's (1971) dynamic supply-side effects of trade on the rate of growth, Lucas' (1988) externalities and Hirschman-type linkages². These linkages contain various beneficial aspects of trade such as greater capacity utilisation, economies of scale, motivation for technical innovation, plus various other intra- and inter-sectoral spill-over effects.

Theoretically, investment is a source of productivity growth as far as innovations are embodied in new plant and machinery. Thus investment would represent technical progress because of the vintage effect of newer and better machines. That is one reason that we have introduced investment (fixed) per capita (*LIP*) as a regressor for the dependent variable per capita GDP. Another justification for the inclusion of this variable is to reflect the strength of the animal spirit. This specification is similar to Chaudhri and Wilson (1994).

Government expenditure per capita (*LGP*) is expected to represent both the public goods production by the state and also the provision of physical and human capital infrastructure. Public goods in the form of information, security and socio-economic institutions promote private sector productivity. The provision of physical (social overhead capital) and human capital infrastructure such as schooling acts as complementary inputs into the production process of the private sector. It is possible, of course, that government activities may have negative external effects and thus depress the rate of economic growth. One case can be that government expenditure exceeds the optimum

² See Hirschman (1958, 1989).

level. Another situation could be the case in which public sector activity is directed according to the interests of special groups rather than the collective interests of the society. But as long as the state performs what Smith called "duties of the sovereign", government spending would create positive external effects and hence establish improved incentives for economic agents in a market system.

We have chosen, as an explanatory variable, the share of state-owned enterprises (SOEs) production in total industrial production (*LSOE*), essentially for two reasons. First, notwithstanding the experiments with enterprise reform undertaken since the late 1970s, deep structural problems remain in the SOE sector³. That these problems pose an insuperable barrier to the attainment of fully market-based economy is widely recognised. To empirically explore the relationship between the growth of per capita income and the SOE share in the total industrial production would verify the observation and provide formal evidence for policy-making. Second, since any change in the SOE share in industrial production would mean a corresponding change for the nonstate sector⁴, this variable functions simultaneously as a proxy for the nonstate sector in which township enterprises (TWEs) have dominant importance⁵. It is therefore expected to depict China's privatisation process and indirectly reveal the impacts of the rise of TWEs in the growth process. The estimated results on this variable will provide evidence on the role of government policies, a topic elaborated in Chapter 3.

5.2.2 Estimating Procedures

Due attention is given to the analytical framework for the sample data. We estimate the basic equation using the aggregate data set by least squares. But for the regional

³ For a review of the enterprise reforms; see Chapter 4; and Bell *et al.* (1993)

⁴ The definition of the nonstate sector in the Chinese context needs clarification. See Bell, *et al.* (1993, 13), for an elaboration of this definition.

⁵ See Chapter 3.

analysis we apply Zellner's seemingly unrelated regression equations (SURE) framework to allow for the inter-regional correlations likely to exist between the regressions' error terms⁶. We estimate each of the regional equations individually by the OLS method and apply the generalised least squares to the pooled econometric model. Note that the OLS estimates are provided mainly for the purposes of comparison and presentation of analysis. The preferred framework for the regional data sets is the SURE model.

SURE models have broad applicability in the analysis of behaviour in social sciences⁷. A SURE model is a set of equations which are related stochastically through their disturbance terms. These disturbances are temporally (serially) uncorrelated both within and across equations, but they are contemporaneously correlated across the equations of the model. Thus the model is a set of equations which may be linked statistically, even though not structurally, through the jointness of the error terms' distribution and through the non-diagonality of the associated variance covariance matrix. To identify this situation, Zellner (1962) coined the term "seemingly unrelated regression equations" to reflect the fact that the individual equations are in fact related to one another, even though superficially they may not seem to be.

The jointness of the equations which characterise the structure of the SURE model, and the form of the associated disturbances' variance covariance matrix, introduce additional information (nonsample information) over and above that available when the equations are considered separately. This suggests that treating the model as a collection of separate relationships will be suboptimal when drawing inferences about the model's

⁶ For a detailed survey of estimation and inferential issues associated with the SURE model see Srivastava and Giles (1987); Srivastava and Dwivedi (1979); Griffiths *et al.* (1993, Ch. 17); and Baltagi and Raj (1992).

⁷ See, for example, Barnhart and Darrat (1988), Chappell (1990), Folland and Kleiman (1990) and Fang and Loo (1994).

parameters⁸. Indeed, as we shall see in Section 5.4, the sharpness of these inferences may be improved by taking account of the jointness inherent in the SURE model, rather than ignoring it.

The mathematical formulation of the SURE model and its underlying assumptions are given below. However, before going through these mathematical details it is of interest to briefly examine what conditions justify a SURE specification for the regional model. For purposes of analytical presentation, separate regression equations are specified to explain per-capita GDP on the part of three sub-economies. In each case, real per-capita GDP is postulated to be determined by four variables including trade, investment, government spending and the share of SOEs in total industrial production. It seems reasonable to propose that the random disturbances associated with these three growth equations may be contemporaneously correlated, given the presence of common government policies which affect each of the regions and the likelihood that similar factors may be responsible for the random effects necessitating the inclusion of the error terms in the regressions.

Now recall the general linear model:

$$y = X\beta + e \quad (5.2)$$

where y is a $(T \times 1)$ vector of T observations on a dependent variable, X a $(T \times K)$ nonstochastic design matrix, β a $(K \times 1)$ vector of unknown parameters, and e a $(T \times 1)$ vector of T unobservable disturbances with

$$E[e] = 0 \quad (5.3)$$

⁸ See Srivastava and Giles (1987, 2).

$$E[ee'] = \Phi = \sigma^2 \Psi \quad (5.4)$$

The most frequently used estimating technique for the above-described model is least squares. In our case, we apply the least square rules $b = (X'X)^{-1} X'y$ to each individual equation separately to obtain the unknown parameters.

The linear statistical model outlined above can be extended to the case where we have M such models

$$y_i = X_i \beta_i + e_i, \quad i=1,2,\dots, M \quad (5.5)$$

A convenient way to write these equations is

$$\begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_M \end{bmatrix} = \begin{bmatrix} X_1 & & & \\ & X_2 & & \\ & & \ddots & \\ & & & X_M \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_M \end{bmatrix} + \begin{bmatrix} e_1 \\ e_2 \\ \vdots \\ e_M \end{bmatrix} \quad (5.6)$$

or compactly,

$$y = X\beta + e \quad (5.7)$$

where y is a $(MT \times 1)$ vector of observations; X is a block diagonal matrix of M design matrices, each having dimension $(T \times K_m)$, where $m=1,2,\dots,M$, β is a $(\sum_m K_m \times 1)$ vector of unknown coefficients, and e is a $MT \times 1$ vector of unobservable disturbances. It is assumed now that $E[e_i]=0$ and $E[e_i e_j'] = \sigma_{ij} I_T$. The covariance matrix of the joint disturbance vector is hence given by

$$E[ee'] = \Omega = \Sigma \otimes I_T \quad (5.8)$$

where \otimes denotes the Kronecker product and Σ is an $(M \times M)$ known positive definite symmetric matrix, defined as

$$\Sigma = \begin{bmatrix} \sigma^{11} & \sigma^{12} & \dots & \sigma^{1M} \\ \sigma^{21} & \sigma^{22} & \dots & \sigma^{2M} \\ \vdots & \vdots & \ddots & \vdots \\ \sigma^{M1} & \sigma^{M2} & \dots & \sigma^{MM} \end{bmatrix} \quad (5.9)$$

In the case of our regional framework, y_i and X_i contain observations on variables for $T=16$ different time periods and the subscript i corresponds to a regional economy. Hence the pooled model outlined in (5.7) can be considered as one way in which time series and cross-sectional data can be combined. The elements on the diagonal of the matrix defined by (5.7) are contemporaneous covariances. They represent the covariance between the disturbances from the different equations of the three sample regions in the same time period.

The estimation rule consistent with the system in (5.6) is given by

$$\hat{\beta} = (X' \Omega^{-1} X)^{-1} X' \Omega^{-1} y = (X' (\Sigma^{-1} \otimes I_T) X)^{-1} X' (\Sigma^{-1} \otimes I_T) y \quad (5.10)$$

which is the Aitken or generalised least squares estimator and is the best unbiased estimator. Within the class of all estimators that are unbiased and linear functions of y , this estimator is minimum variance. The corresponding covariance matrix for $\hat{\beta}$ is

$$\text{cov}(\hat{\beta}) = (X' \Omega^{-1} X)^{-1} = (X' (\Sigma^{-1} \otimes I_T) X)^{-1} \quad (5.11)$$

Since the generalised least squares estimator is the best unbiased estimator for our joint SURE model, it is necessarily better than least squares applied separately to individual equations. However, if we are concerned about one equation, say the i th, and

only estimators that are a function of y_i are considered, then the least squares estimator $b_i = (X_i' X_i)^{-1} X_i' y_i$ is the minimum variance, linear unbiased estimator⁹.

Zellner (1962) noted that $\hat{\beta}$ reduces to b when the design matrices are identical, that is, $X_1 = X_2 = \dots = X_M$, or when the covariance matrix is diagonal. These conditions were further broadened and generalised by Dwivedi and Srivastava (1978). They demonstrated that the Aitken estimator applied to the sets of equations such as (5.6) or the least squares estimator applied to each equation separately produce identical results if the following conditions are satisfied:

$$X'(\sum \otimes I_T)Z = 0 \quad (5.12)$$

where Z is a $MT \times (MT - \sum_{i=1}^M K_i)$ matrix of full column rank and orthogonal to X . This is the necessary and sufficient condition for $b = \hat{\beta}$ and is satisfied when \sum is diagonal or

$$X_i' Z_j = 0 \quad \text{for every } i \neq j, \quad i, j = 1, 2, \dots, M. \quad (5.13)$$

Now we turn to another issue, that is, the treatment of multicollinearity in the data. As discussed in section 5.4, multicollinearity is detected to be a severe problem with the regional data sets. We make use of the concept of ridge regression first introduced by Hoerl and Kennard (1970a, 1970b) to provide the remedy where it is deemed necessary¹⁰.

Understand the representation of the generalised ridge regression estimator introduced by Hoerl and Kennard:

⁹ See Judge *et al.* (1985, 468).

¹⁰ For a survey of the literature see Vinod and Ullah (1981), Judge and Bock (1983), and Judge *et al.* (1985); For an application see Huang and Mintz (1990), Donatos and Mergos (1991) and Knight *et al.* (1993).

$$b_R(D) = [X'X + PDP']^{-1} X'y \quad (5.14)$$

where P is the matrix whose columns are the orthonormal characteristic vectors of $X'X$ and D a diagonal matrix of constants $d_i \geq 0$. The generalised ridge estimator reduces to the ordinary ridge estimator (5.15) when the constants d_i are all equal and take the value $d_i = k$,

$$b_R(k) = (X'X + kI)^{-1} X'y \quad (5.15)$$

where $k > 0$ is an arbitrary constant. It follows directly from (5.15) that¹¹

$$E(b_R(k)) = (X'X + kI)^{-1} X'X\beta \quad (5.16)$$

and

$$\text{var}(b_R(k)) = \sigma^2 (X'X + kI)^{-1} X'X(X'X + kI)^{-1} \quad (5.17)$$

The ridge estimator is thus biased, but the argument is that if the variance can be decreased, the mean-squared error (MSE) will decline. There always exists a constant $k > 0$, such that¹²

$$\sum_{i=1}^k \text{MSE}(\tilde{\beta}_i) < \sum_{i=1}^k \text{MSE}(\hat{\beta}_i) \quad (5.18)$$

where $\tilde{\beta}_i$ are the estimators of β_i from the ridge regression and $\hat{\beta}_i$ are the least squares estimators and k is the number of regressors. The main difficulty lies in the selection of

¹¹ Johnston (1984, 252).

¹² See Hoerl and Kennard (1970a). Knight *et al.* (1992) compared the predictive performance of three Stein-like empirical Bayes estimation rules to the least squares estimator and the ridge regression technique. They indicated that the ridge estimators improve upon the least squares mean square error of prediction risk under certain design-related conditions.

a numerical value for the arbitrary scalar k . Hoerl and Kennard (1970b) suggested trying various values of k and picking the value of k so that "the system will stabilise" or the "coefficients have reasonable signs"¹³. Some others have proposed different approaches¹⁴. These procedures however have been controversial.

We have tried to perform regressions in a stepwise manner in an attempt to see if the specification is sensitive to adding variables. The following procedure has been followed in the actual estimation.

$$[1] \text{ } LYP_t = \beta_0 + \beta_1 LEXP_t + \beta_2 LIMP_t \quad (19)$$

$$[2] \text{ } LYP_t = \beta_0 + \beta_1 LEXP_t + \beta_2 LIMP_t + \beta_3 LIP_t \quad (20)$$

$$[3] \text{ } LYP_t = \beta_0 + \beta_1 LEXP_t + \beta_2 LIMP_t + \beta_3 LIP_t + \beta_4 LGP_t \quad (21)$$

$$[4] \text{ } LYP_t = \beta_0 + \beta_1 LEXP_t + \beta_2 LIMP_t + \beta_3 LIP_t + \beta_4 LGP_t + \beta_5 LSOE_t \quad (22)$$

$$[5] \text{ } LYP_t = \beta_0 + \beta_1 LTDP_t + \beta_2 LIP_t \quad (23)$$

$$[6] \text{ } LYP_t = \beta_0 + \beta_1 LTDP_t + \beta_2 LIP_t + \beta_3 LGP_t \quad (24)$$

$$[7] \text{ } LYP_t = \beta_0 + \beta_1 LTDP_t + \beta_2 LIP_t + \beta_3 LGP_t + \beta_4 LSOE_t \quad (25)$$

where the number in square parentheses preceding each equation is the column number of the result presentation in Tables 5.2-5.5 and corresponds to the subscript number of the column notation used in Tables 5.6 A and B in section 5.4. Equations 5, 6, and 7 differ from the first four models in that exports and imports per capita are treated as two separate explanatory variables.

¹³ We have followed this procedure in estimation.

¹⁴ Brown and Beattie (1975) for example suggested selecting a value of K "at that point where the last ridge estimate attains its maximum absolute magnitude after having attained its "ultimate" sign, where "ultimate" sign is defined as being the sign at, say $k=0.9$."

5.3 The Nature of the Data

The annual data used for the study have been collected from some of the major Chinese statistical publications. Since the data published by these sources are on a nominal basis, we have converted them into constant 1987 yuan by deflating these nominal data with the overall national and province-wise retail price indices respectively. The values of exports and imports originally denoted in US dollars of both the country and the regions are first converted into 1987 dollars by using the country-specific export and import price indices reported in World Tables 1994. They are then multiplied by the official exchange rate of that year to arrive at the real exports and imports valued in the Chinese currency. This treatment of the trade data not only reflects the changes in domestic prices but also isolates the impact of changes in the relative prices.

The following issues are worth noting separately:

Stationarity Due to the small sample size of the data sets, we make no attempts to examine the properties of the individual series in their integratedness in order to avoid the problem of non-stationarity before proceeding to estimate the models. However, under other circumstances, particularly when an analysis involves a larger sample size, the stationarity issue should be given due attention. The standard method for detecting nonstationary behaviour in a time series is to test for the presence of a unit root. Testing can be extended to incorporate the prospect of a deterministic trend as well as the stochastic type of trend represented by a unit root. A number of tests are available and can be found in Said and Dickey (1984), Kwiatkowski *et al.* (1992), Perron (1988), Phillips (1987) and Phillips and Perron (1988). The Kwiatkowski test takes trend or level stationarity (no unit root) as the null hypothesis, whereas the Phillips-Perron and Dickey-Fuller tests take the existence of a unit root as the null¹⁵.

¹⁵ See Van den Burg *et al.* (1994) for an application.

GDP (Y) The scarcity of data has been one of the main reasons for restricting the coverage of this empirical analysis to the post-reform period only. An ideal situation would be to involve some of the pre-reform years so that an across-period examination and comparison of the changes in the effects on the aggregate economic performance of policy changes and institutional shifts could be performed. Not until the mid-1980s had the State Statistical Bureau published the data on gross domestic product. The current GDP estimates released for the country have only covered the post-1978 period. The data for the early years are at least not available from Chinese sources. On the regional level, estimates of GDP have been released in Shanghai and Zhejiang but are not available in Hubei. Thus for Hubei, the estimates on GNP are used as a proxy. However, this should not cause much concern since Hubei's involvement in overseas economic activities is small enough to be neglected.

Investment (I) Ideally one should use gross domestic investment (GDI) as the variable, but the data is not available and the construction of the necessary series for the national and the regional economies is impeded by the inconsistencies between statistical presentations adopted in the regional publications. Thus investment in fixed assets is taken as investment I . Another point to be noted is that the data, for the early years of our sampled period, only covers investment in the SOE sector. Fixed investment of the private sector was excluded from the official statistics.

The share of the state-owned industrial production in total industrial production (SOE) The state-owned sector in the Chinese context is defined as enterprises that are under the direct authority of the central government or of provincial governments. There are six tiers of government: central, provincial, prefecture or municipal, county or district, township, and village. All other enterprises are considered to comprise the nonstate sector.

China's official statistics distinguish three main categories of nonstate enterprises: collectives, individual business, and "other enterprises". Collectives can be urban or rural, depending on their affiliation. Enterprises affiliated with a district government under a municipality or a county are regarded as large urban collectives. Those affiliated with a neighbourhood are labelled small collectives. In addition, urban cooperatives are included in the category of urban collectives. Rural collectives include township enterprises (TWEs) and rural cooperatives. What distinguishes collectives from SOEs is that they are not managed by, nor do they report to, the industrial ministries/bureaus or any representatives thereof. Thus their operation is mainly market-oriented. From the viewpoint of ownership, collectives are taken as publicly owned, since their ownership is shared by the community. But many collectives are in effect private enterprises, because they are merely partnerships hiring employees from the local community.

Individual businesses and "other enterprises" comprise what is officially defined as the private sector. An individual business is defined as one that is owned by a household or an individual and employs no more than seven people. The category of "other enterprises" consists of private enterprises owned by a household or an individual and employing more than seven workers; foreign enterprises; and joint ventures.

5.4 Empirical Results

The statistical analysis presented in this section concerns the regression estimates based on both the aggregate and regional data sets. The country equation is estimated using the ordinary least-squares (OLS) method. The regressions for the regions are estimated using the least squares method, the generalised least squares technique, and ridge regression. The statistical enquiry explores the following hypotheses:

Hypothesis 1: *The expansion of international trade will have a positive effect on growth, i.e., $\beta_1 > 0$.*

Hypothesis 2: *Domestic investment activities will positively affect growth, i.e., $\beta_2 > 0$.*

Hypothesis 3: *Government expenditures have tended to stimulate economic growth, i.e., $\beta_3 > 0$.*

Hypothesis 4: *The share of state-ownership in total production is negatively correlated with growth performance, i.e., $\beta_4 < 0$.*

The above four propositions reflect the essential features of the theoretical contentions expounded in Chapter 2 and the main observations made in Chapters 3 and 4 regarding the Chinese economy. The first two hypotheses postulate a relationship that has well been established from both theoretical and empirical perspectives. It is our task to reexamine them against the Chinese data with a regional dimension. Propositions 3 and 4 concern the role of government policies in the growth process. This is an important issue given the state of the Chinese economy and the transitional nature of the economic system. Evidence generated on these hypotheses will provide information for policy formation.

In Table 5.1 we report the correlation matrix of ratios and per capita values of all the variables directly used in the estimation¹⁶. Note that for the aggregate economy trade (exports and imports treated separately and also combined), investment, government expenditure, and the share of SOE are highly correlated among themselves and also with the dependent variable, namely per-capita output. Despite the high values of pair-wise correlation coefficients on the independent variables, the coefficients presented in Table 5.2 seem well estimated. Pairwise correlations among explanatory variables are also high on the part of the regions. This is a sign of multicollinearity. The severity and consequences of this problem will be discussed below.

¹⁶ Tables are presented in appendix B of this Chapter.

The estimated coefficients of the national and regional regressions are reported below in Tables 5.2-5.7. Note that the regression coefficients represent elasticities because the variables are measured in logarithms. The estimates for the aggregate regression are contained in Table 5.2. It is obvious from the results that, even with the presence of severe multicollinearity in the data set, the overwhelming majority of the regression coefficients are significant and have meaningful signs and magnitudes¹⁷. The models fit well with the data because on average 98 per cent of the variation in per capita income is explained by the included explanatory variables. The *F*-statistic for all the estimated equations is extremely high, which further indicates a close relationship between the regressand and the regressors. The regression results show that, with the exception of the coefficient of the import variable, the variations in the dependent variable are all highly responsive to changes in the independent variables. In order of the magnitudes of the estimated parameters, the SOE share comes the first, which is followed by trade¹⁸ and government spending and then domestic investment. These results in general are consistent with our a priori expectations. There is one point that should be noted in passing. The Durbin-Watson statistic computed from the residuals of all the regressions is not less than the lower critical value and not larger than the upper critical value. This indicates that the Durbin-Watson test is inconclusive in concluding whether autocorrelation does or does not exist. The inconclusiveness of the DW test arises from the fact that there is no exact small-sample distribution for the DW statistic *d*. To solve this problem, we have performed the Lagrange Multiplier (LM) Test to detect first-order serial correlation. The LM test is conclusive and supports the null hypothesis of zero first-order autocorrelation¹⁹.

¹⁷ With the import variable, the drastic changes that have occurred in the *t*-values of the regressions is due to multicollinearity.

¹⁸ See our preferred models, i.e., equations 4 and 7.

¹⁹ For the testing procedures and results, see appendix B of this chapter.

The results for the regional regressions are reported in Tables 5.3-5.7. Tables 5.3-5.5 contain the least squares estimates. As noted above in Section 5.2, the least squares estimates are presented merely for purposes of comparing statistical inferences with the SURE specification. Table 5.6 is a presentation of the SURE results estimated by the generalised least square method. It is clear from these results that multicollinearity is a problem with the data sets²⁰. As indicated in the tables, in all cases the included independent variables together have explained a good portion of the variation in the per-capita GDP, and yet just a few regression coefficients, with the exception of Zhejiang, are individually significant on the basis of *t*-values. Moreover, some variables even have a wrong sign. For example, a priori, one would expect a positive relationship between economic growth and imports. However, in two regressions, the regression coefficients bear unhypothesised signs²¹. Although some of the estimated coefficients are individually statistically insignificant, on the basis of the Wald F-statistic one can convincingly reject the hypothesis that $\beta_1 = \beta_2 = \dots = \beta_k = 0$ for all the regressions. Due to the presence of severe multicollinearity, the regression results presented in Tables 5.3-5.6 are ill estimated.

It is worth comparing the results of the SURE regressions with those generated from the separate estimation. We have indicated in Section 5.2 that the generalised least squares estimator is necessarily better than least squares applied separately to each equation because it is the best unbiased estimator for our joint statistical model. This has been borne out by the regression results. By including information on the error covariance and using the SURE statistical model and the estimated generalised least

²⁰ Formal tests have been proposed in the econometric literature for testing multicollinearity, e.g., Farrar and Glauber (1967) and Belsley *et al.* (1980, Ch. 3). But because multicollinearity is a problem with the data and not with a model itself, many econometricians argue that formal tests are either meaningless or not fruitful (see Maddala, 1977, 186; Kmenta, 1971, 380).

²¹ See Table 5.3, Column 5 and Table 5.4, Column 4.

squares estimation rule, we have, relative to individual relations with their corresponding least squares estimates of the unknown parameters, been able to improve the estimated sampling precision with which we can estimate the unknown coefficient vectors of β_i . As the results indicate²², the statistical fit R^2 has increased in all cases compared with the corresponding individual regressions by least squares. In addition, the t -ratios of almost all the estimated coefficients have also increased although most of the variables continue to be estimated with limited precision (low t -value) due to the presence of high collinearity of the data. However, it should be emphasised that since most of the coefficients estimated by the generalised least squares method continue to be statistically insignificant because of multicollinearity we will not base our analysis on these results although the joint SURE model is our preferred analytical framework.

Table 5.7 has presented ridge regression results of the regional equations where the statistical insignificance of the estimated coefficients is deemed to be a consequence of high collinearity and econometric remedy is required²³. The estimated results confirm a number of qualitative observations made in the previous chapters. They show that the growth of government spending, foreign trade, investment and the share of SOEs in industrial production is strongly endogenous to the growth of the economy. Several findings should be highlighted separately. First, as the table shows, all the variables have significant coefficients with signs consistent with a priori hypotheses. For example, the negative sign of SOE share ($LSOE$) is consistent with a priori expectation, reflecting the fact that the SOEs in China have dampened economic growth.

Second, the magnitudes of the coefficients are in general consistent with a priori expectations. The results show a significant positive effect of the trade variable on the

²² See Tables 5.3-5.5 and Table 5.6 comparatively.

²³ For the purpose of this study, we accept the results derived from ridge regression on our two preferred equations, i.e., equations [4] and [7].

change in per capita income; and hence support the conventional wisdom that trade will render the most efficient allocation of resources and produce maximum benefits for all countries involved. The negative coefficients of *LSOE* verify the hypothesis that higher shares of nonstate ownership promote growth. It supports the widely-held view that SOEs are substantially depressing growth in China. The hypotheses that investment and government spending positively influence economic growth are also supported by the results, with the coefficients of *LIP* and *LGP* significantly positive.

Third, the magnitudes of some of the coefficients vary significantly between the sample regions while others are very similar. The differences and similarities observed between the regions have in general been a reflection of the specific functioning of a series of factors some of which have been discussed in Chapters 3 and 4. Take the state-owned share of industrial production for example. The highest coefficient is in Hubei and the coefficients in Shanghai and Zhejiang are very similar. This result reflects the fact that Hubei is the homeland of many a large state firms.

5.5 Conclusion

A simple econometric specification in the spirit of endogenous growth theory has been attempted, in the context of China, to empirically examine the relationship between long-term economic performance and a number of variables including trade, investment, government spending as well as state-ownership share in industrial production. In spite of its simplicity, from a theoretical perspective, the approach seems to be fruitful. The model captures well the main stylised facts of growth and structural changes which are occurring in China, which are revealed in Chapters 3 and 4. It also has overcome a major shortcoming of the neoclassical model in that TFP growth appears by magic, with no link to changes in economic structure or policy choices. The empirical results have in

general provided useful information on the trade-growth nexus and the direction of government policies in promoting long-term growth.

There is clear evidence from the econometric analysis for the existence of a positive long-run relationship between international trade, investment and economic growth. Exports and imports, either when treated separately or taken as the joint trade variable, all seem to have a significant effect on long-run economic performance. This result strongly supports the main theoretical contentions found in the endogenous growth literature, which are examined in Chapter 2. Our findings in general accord with the basic results that have been generated from a number of cross-section studies of less developed economies, some of which we have already noted above in this Chapter and in Chapter 2. In some recent studies that directly involve China, the role of trade and investment are found in all cases to be positive and significant in influencing the rate of economic and labour productivity growth.²⁴ Our findings in this connection are further evidence for the existence of a positive relationship between trade and long-run economic growth.

The role of the state in the growth process is another important issue that has been explored in this study. The results indicate that the effects of government policies on economic growth are positive and significant. This finding has confirmed the basic postulate of the endogenous theory that the government can positively affect the growth process through policy choices. It has also verified a number of qualitative observations made in Chapters 3 and 4 regarding the growth of the Chinese economy. *By now we can conclude that, given the planned nature of the Chinese economic system, government policy choices, such as the decisions taken in the late 1970s and early 1980s to transform rural institutions and to reform the enterprise system; and the sequenced*

²⁴ See Bell *et al.* (1993); Chaudhri and Wilson (1994); and Chai and Sun (1993).

measures to liberalise the foreign trade system, are the fundamental forces that have been driving the growth process in the post-reform era.

The implications of our results for policy are several. (1) Trade liberalisation and export-oriented policies promise a much higher payoff in terms of GDP growth than traditional import substitution strategies. But since the returns will probably materialise only in the long run, liberalised foreign trade policies must therefore be maintained for long periods of time for success to come through. On the other hand, since the size and extent of efficiency gains through trade liberalisation will depend much on the coordination of the domestic policy framework, trade liberalisation should be preceded, or at least accompanied by, a fundamental reform of the domestic pricing system and incentive system of trading and production enterprises. The Chinese experience has been strongly supportive of the above direction.

(2) Increases in the size of government spending are likely to stimulate economic growth through public goods production and the provision of physical and human capital infrastructure. This suggests that the recent policy efforts of China to construct better physical infrastructure and provide a well-trained labour force are appropriate and should be continued.

(3) The results also indicate that higher nonstate shares of industrial production promote growth. Clearly, the attempts of the government over the 1980s to reform the ownership structures have been successful. The policies that have been directed at encouraging the development of TWEs and foreign-funded enterprises are good instances of this success. The government should commit further efforts to fostering nonstate industries and reforming the state-owned sector.

Appendix 5.A: Lagrange Multiplier Test

5.A.1 Procedures for carrying out the LM test²⁵:

Step 1 Run the OLS regression and obtain the residuals.

Step 2 Regress \hat{u}_t against all the independent variables ($X_{t1}, X_{t2}, \dots, X_{tk}$) and \hat{u}_{t-1} , using the $T-1$ observations 2 through T . Then compute $(T-1)R^2$ from this auxiliary regression.

Step 3 Reject $H_0: \rho = 0$ in favour of $H_1: \rho \neq 0$ if $(T-1)R^2 > \chi_1^2(0.05)$, the value of χ_1^2 in the chi-square distribution with 1 d.f. such that the area to the right of it is 0.05.

5.A.2 LM test results

The estimated auxiliary regressions are as follows (values in parentheses are t -statistic):

$$(1) \hat{u}_t = -0.0419 + 0.0344 LEXP - 0.0258 LIMP + 0.362 \hat{u}_{t-1}$$

$$(-0.276) \quad (0.477) \quad (-0.308) \quad (1.251)$$

$$R^2=0.157 \quad T=16 \quad (T-1)R^2=2.355$$

$$(2) \hat{u}_t = -0.019 - 0.811 LEXP - 0.039 LIMP + 0.045 LIP + 0.551 \hat{u}_{t-1}$$

$$(-0.178) \quad (-0.148) \quad (-0.515) \quad (0.689) \quad (1.806)$$

$$R^2 = 0.27 \quad T=16 \quad ((T-1)R^2=4.04$$

²⁵ See Ramanathan (1989, 338).

$$\begin{aligned}
 (3) \quad \hat{u}_t = & 0.004 & + 0.004 \text{ LEXP} & + 0.014 \text{ LIMP} & - 0.01 \text{ LIP} \\
 & (0.020) & (0.121) & (0.297) & (-0.245) \\
 & + 0.008 \text{ LGP} & - 0.173 \hat{u}_{t-1} \\
 & (-0.138) & (-0.473)
 \end{aligned}$$

$$R^2=0.032 \quad T=16 \quad (T-1)R^2=0.48$$

$$\begin{aligned}
 (4) \quad \hat{u}_t = & 1.027 & - 0.059 \text{ LEXP} & - 0.008 \text{ LIMP} & 0.009 \text{ LIP} \\
 & (0.717) & (-0.737) & (-0.171) & (0.273) \\
 & - 0.02 \text{ LGP} & - 0.162 \text{ LSOE} & - 0.11 \hat{u}_{t-1} \\
 & (-0.271) & (-0.732) & (-0.285)
 \end{aligned}$$

$$R^2=0.094 \quad T=16 \quad (T-1)R^2=1.41$$

$$\begin{aligned}
 (5) \quad \hat{u}_t = & 0.001 & - 0.048 \text{ LTDP} & + 0.047 \text{ LIP} & + 0.412 \hat{u}_{t-1} \\
 & (0.054) & (-0.430) & (0.516) & (1.223)
 \end{aligned}$$

$$R^2=0.143 \quad T=16 \quad (T-1)R^2=2.15$$

$$\begin{aligned}
 (6) \quad \hat{u}_t = & 0.02 & - 0.032 \text{ LTDP} & + 0.03 \text{ LIP} & + 0.001 \text{ LGP} & + 0.331 \hat{u}_{t-1} \\
 & (0.063) & (-0.331) & (0.358) & (0.012) & (0.899)
 \end{aligned}$$

$$R^2=0.084 \quad T=16 \quad (T-1)R^2=1.25$$

$$\begin{array}{cccc} (7) \quad \hat{u}_t = & 1.723 & - 0.161 \text{ LTDP} & + 0.03 \text{ LIP} & + 0.027 \text{ LGP} \\ & (1.633) & (-1.877) & (0.867) & (0.517) \\ & -0.273 \text{ LSOE} & + 0.438 \hat{u}_{t-1} & & \\ & (-1.71) & (1.282) & & \\ \\ & R^2=0.318 & T=16 & (T-1)R^2=4.78 & \end{array}$$

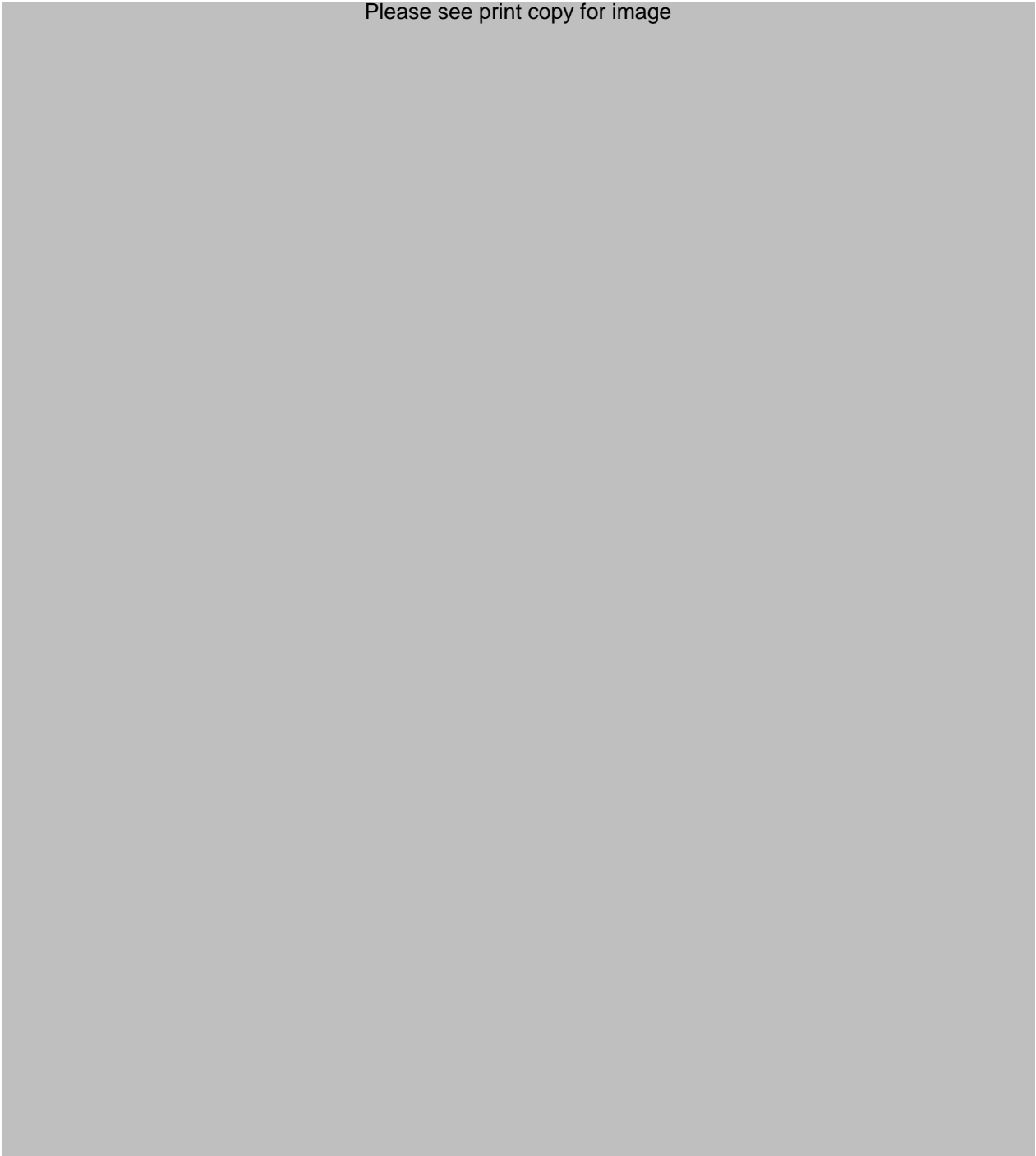
Note that the critical chi-square is $\chi^2_1(0.05)=3.84$, which is higher than the observed values given by $(T-1)R^2$ of all the other auxiliary regressions except for equations (2) and (7). The null hypothesis of zero serial correlation is thus not rejected at the 5 per cent level. For equations (2) and (7) the null hypothesis is not rejected at the 1 per cent critical value.

Appendix 5.B: Tables of Results

(See pages 189-196)

Table 5.1
Correlation Matrix (ratios and per capita values)

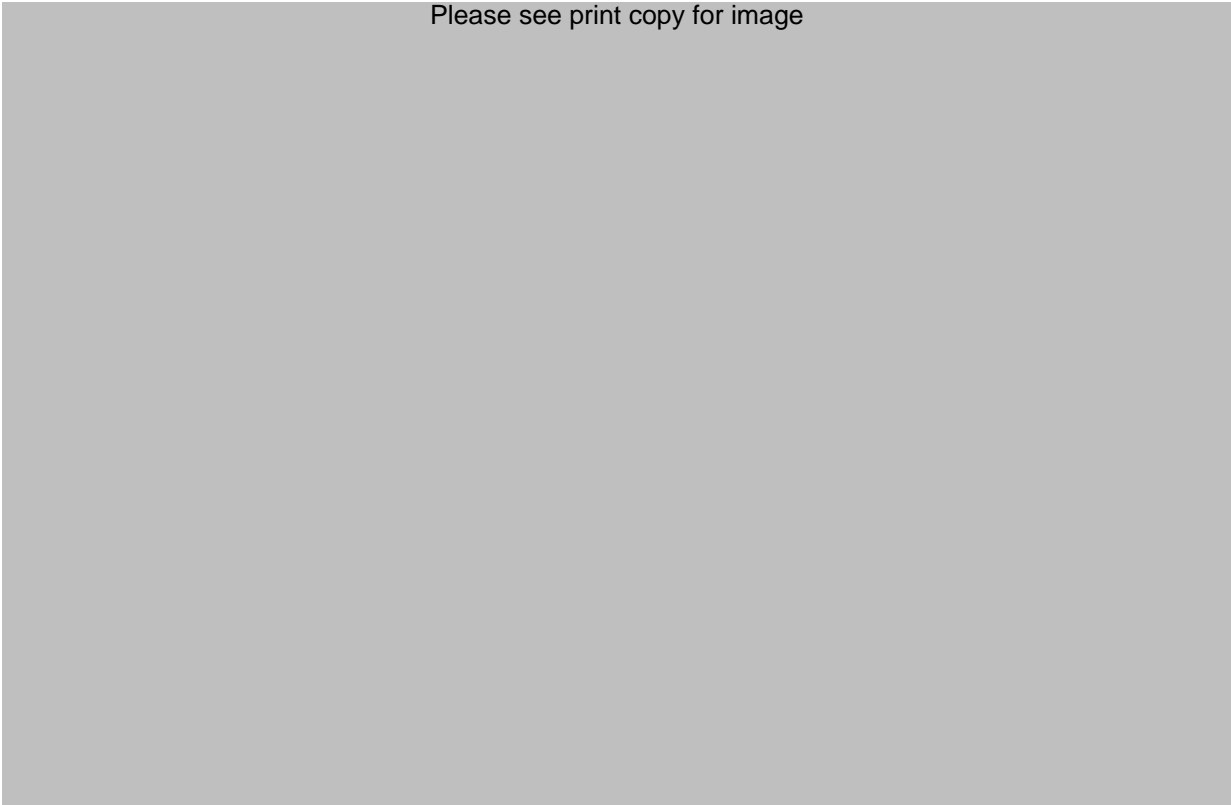
Please see print copy for image



Source: -Computed from:
State Statistcs Bureau (1993a)
Hubei Statistics Bureau (1993)
Hubei Statistics Bureau (1994)
Shanghai Statistics Bureau (1994)
Zhejiang Statistics Bureau (1994)
IBRD WORLD TABLES 1994

Table 5.2
Growth of Per Capita GDP in China
and Its Determinants (1978-1992)

Please see print copy for image



Source:- Computed from :
State Statistics Bureau (1993a)
IBRD WORLD TABLES 1994

- Note:-*
- 1. LYP -Log (GDP per capita)
 - LEXP -Log (Exports per capita)
 - LIMP -Log (Imports per capita)
 - LIP -Log (Investment per capita)
 - LGP -Log (Government expenditure per capita)
 - LSOE -Log (the share of state-ownership in total industrial output)
 - LTDP -Log (Trade per capita)
 - 2. Log linear model estimated with the OLS method.
 - 3. Values in parentheses are *t*-statistics

Table 5.3
Growth of Per Capita GDP in Hubei
and Its Determinants (1978-1993)

Please see print copy for image

Source:- Computed from:
Hubei Statistics Bureau (1993)
Hubei Statistics Bureau (1994)
IBRD WORLD TABLES 1994

Note:-

1.LYP	-log (GDP per capita)
LEXP	-Log (Exports per capita)
LIM	-Log (Imports per capita)
LIP	-Log (Investment per capita)
LGP	-Log (Government expenditure per capita)
LSOE	-Log (the share of state-ownership in total industrial output)
LTDP	-Log (Trade per capita)

2. Log linear model estimated with the OLS method.
3. Values in parentheses are t-statistics.

Table 5.4
Growth of Per Capita GDP in Shanghai
and Its Determinants (1978-93)

Please see print copy for image

Source:- Computed from:
Shanghai Statistics Bureau (1994)
IBRD WORLD TABLES 1994

Note:-

1. LYP	-Log (GDP per capita)
LEXP	-Log (Exports per capita)
LIMP	-Log (Imports per capita)
LIP	-Log (Investment per capita)
LGP	-Log (Government expenditure per capita)
LSOE	-Log (the share of state-ownership in total industrial output)
LTDP	-Log (Trade per capita)

2. Log linear model estimated with the OLS method.
3. Values in parentheses are *t*-statistics.

Table 5.5
Growth of Per Capita GDP in Zhejiang
and Its Determinants (1978-1993)

Please see print copy for image

Source:- Computed from:
Zhejiang Statistics Bureau (1994)
IBRD WORLD TABLES 1994

- Note:-*
- 1. LYP -Log (GDP per capita)
 - LEXP -Log (Exports per capita)
 - LIMP -Log (Imports per capita)
 - LIP -Log (Investment per capita)
 - LGP -Log (Government expenditure per capita)
 - LSOE -Log (the share of state-ownership in total industrial output)
 - LTDP -Log (Trade per capita)
 - 2. Log llinear model estimated with the OLS method.
 - 3. Values in parentheses are *t*-statistics

Table 5.6A Growth of Per Capita GDP and Its Determinants : Hubei, Shanghai and Zhejiang (1978-93) (SURE- Generalised Least Square Method)

Please see print copy for image

Source:- Computed from:
Hubei Statistics Bureau (1993, 1994)
Shanghai Statistics Bureau (1994)
Zhejiang Statistics Bureau (1994)
IBRD WORLD TABLES 1994

Note:- I: Hubei; II: Shanghai; III: Zhejiang
The subscript is the system number; S- R^2 : system R-square; values in parentheses are *t*-statistics.

Table 5.6B Growth of Per Capita GDP and Its Determinants: Hubei, Shanghai and Zhejiang (1978-1993) (SURE-Generalised Least Square Method)

Please see print copy for image

Source:- Computed from:
Hubei Statistics Bureau (1993, 1994)
Shanghai Statistics Bureau (1994)
Zhejiang Statistics Bureau (1994)
IBRD WORLD TABLES 1994

Note:- I: Hubei; II: Shanghai; III: Zhejiang
The subscript is the system number; S- R^2 : system R-square; values in parentheses are t -statistics.

**Table 5.7 Growth of Per Capita GDP and Its Determinants:
Hubei, Shanghai and Zhejiang (1978-1993)
(Results of Ridge Regression)**

Please see print copy for image

Source:- Computed from:
Hubei Statistics Bureau (1993, 1994)
Shanghai Statistics Bureau (1994)
Zhejiang Statistics Bureau (1994)
IBRD WORLD TABLES 1994

Note:-

LEXP	-Log (Exports per capita)
LIMP	-Log (Imports per capita)
LIP	-Log (Investment per capita)
LGP	-Log (Government expenditure per capita)
LSOE	-Log (Share of the state-ownership in total industrial output)
LTDP	-Log (Trade per capita)

CHAPTER 6

CONCLUSIONS AND POLICY IMPLICATIONS

6.1 Introduction

The purpose of this study has been to explore the nature of the post-reform economic growth of China, identify the major growth determinants, and draw policy implications for structuring future development policy and strategy. In describing our theme we have tried to present theoretical and empirical enquiry in a systematic way in a subject which seems to consist of rather disparate elements.

This approach to analysis is reflected in the structure and organisation of the contents of the thesis. Thus, following a statement of the objective and scope of this study, in Chapter 2 we examined the relationship between trade and investment and long-term economic performance. Our account of the literature is not exhaustive, although we have tried to give a picture of the most important areas. This has led us to concentrate on some of the more relevant and recent aspects concerning the subject.

The exploration of economic performance and structural shifts over the 1973-1992 period formed the subject matter of Chapter 3. While providing a general quantitative outline of the major aspects of the growth and structure changes, we highlighted the role of foreign trade reform in setting in motion the relentless drive for opening up which in turn produced rapid growth. We also emphasised the importance of agricultural reform in initiating the rapid rural industrial development which not only has transformed the rural economic structure but also has stimulated urbanisation and internationalisation. These tentative findings provided preliminary evidence for the major theoretical conjectures made in Chapter 2; and are suggestive of the research direction pursued in Chapter 5. What we have observed in Chapter 3 is essentially the effect of government

policies. Thus in Chapter 4 we described and analysed, for the post-1978 period, some of the most celebrated policy changes and institutional reforms which appear to be responsible for the superior growth performance, including the continued expansion of foreign trade, the unprecedented inflows of direct foreign investment (DFI), and sustained development of township enterprises (TWEs).

Chapter 5 brought all the major aspects of the theoretical contentions expounded in Chapter 2 and the essential parts of the observations made in Chapters 3 and 4 under quantitative analysis. Since we started and proceeded with the preceding analysis by postulating positive externality effects of trade on the rest of economy, our statistical model predicts a positive relationship between economic growth and trade expansion. And similarly, the same prediction could be made for the effects of investment and government spending. As expounded in Chapter 3, high levels and rates of investment were a crucial factor that contributed to the rapid post-reform growth of the Chinese economy. And these high levels of investment were supported by high domestic savings and continuing inflows of foreign capital which were in turn essentially induced by government policies. These theoretical expectations are strongly supported by the empirical evidence presented in the latter part of Chapter 5. The findings point to possible future policy reforms, raise practical questions, and suggest further research directions. These issues are the major concern of the present chapter.

This final chapter, without attempting an overall summary of the contents of this thesis, is designed to bring together the major findings of the study and draw policy implications based on the analysis presented in the preceding chapters. The findings of the study will be discussed first, and then their implications for policy, although they are closely interrelated.

6.2 Conclusions

Two broad conclusions can be drawn from this study. First, although there are numerous factors underlying the growth process of the post-reform economy given the complexity of the issue of economic growth, the continued expansion of foreign trade, the rapid growth of TWEs, the marked increase in investment, and the acquisition of advanced technology including efficient management expertise have been identified as the main growth determinants. Second, the remarkable economic performance which has been observed is a function in large part of government policy choices. These two basic assertions are indicated by the facts presented below.

6.2.1 Foreign Trade Expansion and Economic Growth

China's superior economic performance- which led to real growth rates of 8.1 per cent a year between 1978 and 1992- has largely sprung from the strategy to open the domestic economy to the international market. This primary conclusion is conclusive based either on observation or on the empirical evidence generated from this study. In both the aggregate and the subeconomies under study, rapid and continued expansion of foreign trade was associated with superior and sustained growth of income¹. For either the country or the sampled regions, there is resounding evidence for the existence of a long-run positive and significant relationship between trade and economic growth². With these results on hand, the central question, then, is how the trade expansion was achieved, and why such an expansion was associated with rapid growth of GNP?

Consider first the determinants of trade expansion. For decades after the communist take-over of political power in 1949, China had persistently pursued an inwardly-oriented development strategy. International markets were counted as economically

¹ See Chapter 3.

² See Chapter 5.

anarchic systems from which the domestic economy should be shielded. Trade, according to the notions of economic planning prevalent in China, was a residual item, a way of making up deficiencies or disposing of surpluses after the economic plan for the country or locality had been achieved. The state controlled foreign trade through a number of subordinate foreign trade corporations and thereby separated the domestic firms from their foreign counterparts.

China's adoption of the open-door policy in late 1978 was a sharp departure from the autarchy development strategy of import substitution. The change in the official attitude towards the role of trade led to a fundamental shift in trade and trade-related industrial policies. Trade policies were set within the context of the leadership's strong commitment to long-term rapid economic growth through specialisation reflecting China's comparative advantage. In essence the sequential foreign trade reforms unfolded in the late 1970s were all geared to those targets: the decentralisation of trade decisions to the localities and the enterprise level; the adoption of the foreign exchange retention scheme; and the foreign exchange rate devaluation were all deployed discriminatorily to encourage exports³.

China began to decentralise foreign trade decisions in 1979. This initiative was consistent with the central thrust of the industrial reforms of decentralising production and investment decisions to enterprises and subjecting them increasingly to competition and market forces⁴. The decentralisation drive of foreign trading rights proceeded simultaneously with reducing the scope of foreign trade planning, with the purpose of removing the "air-lock" between the domestic producing enterprises and the international market. But the fundamental objective was to promote exports.

³ Trade expansion was in fact taken as a most important objective in the open-up strategy. See Zhang Peiji (1992) for an extended discussion.

⁴ For a brief review of the decentralising process of decision-making in the productive sectors, see Section 4.2, Chapter 4.

The most important single element of China's open-to-the-outside-world policy is the multi-level arrangement of opening the domestic economy to the outside world. China's adoption of this strategy reflected a strong predilection for experimentation resulting from the government's perception of the complexities of simultaneous nationwide reform in such a large country (Bell *et al.*, 1993). The creation, in the late 1970s and early 1980s, of the four SEZs in Fujian and Guangdong provinces was the first step taken under this strategy. These SEZs were allowed more flexible financial and administrative powers with respect to foreign trade and investment and thereby provided a greater competitive edge over the rest of the country. The subsequent development of this strategy, as noted in Chapter 4, was in general an extension of this approach to a number of coastal cities. The adoption of the spatial strategy, in retrospect, by giving differential policy treatment to different regions, created a competitive environment in an economy where exchange relations as a principle to guide economic activities had been absent for nearly four decades. It also revealed the potential for divergence in foreign trade and economic performance among localities.

Foreign exchange retention is another important policy measure that China adopted to improve incentives for exports. It was a foreign exchange sharing system under which exporters surrendered their actual foreign exchange and were issued retention quotas by the SAEC⁵. Adoption of this measure signified the government's intent to give up its monopoly on the control of foreign exchange and thus was a tentative step in the direction of more decentralised foreign exchange allocation and partial market determination. While controversy surrounds the evaluation of this instrument, as an ad hoc export promotion measure, foreign exchange retention was at least as effective as a devaluation of the yuan, particularly after the creation of foreign exchange swap markets and the introduction of foreign exchange retention rights in the early 1980s. It served to improve the incentives for the domestic producing firms to engage in export production.

⁵ For an extended discussion see Chapter 4.

Over the entire pre-reform period, the effect of the exchange rate was muted because of the separation of domestic prices from world prices. However, with the decentralisation of trade decisions to enterprise level and the parallel reforms in the domestic economy, particularly the price reforms, the exchange rate began to emerge in the early 1980s as an increasingly important element of trade policy and export promotion strategy in China. The first move toward revising the exchange rate policy was to introduce the internal settlement rate for trade transactions in 1981. The internal rate was set at 2.8 yuan to the US dollar, based on the 1978 average cost of earning a dollar. In contrast, the official rate which was applied to nontrade transactions was 1.5 yuan. This meant that there was a de facto devaluation of the domestic currency by nearly 50 per cent against the US dollar for trading enterprises.

The official exchange rate was progressively devalued over the succeeding three years. In 1985 the rates were unified with the official rate stepping up to the previous internal rate level. In the following year, a dual exchange rate re-emerged with the Central Government's decision to permit nation-wide transactions in retention quotas. Following the new exchange arrangements in 1986, two devaluations were introduced in 1989 and 1990. And in 1991 China adopted a managed floating exchange rate system. By April 1993, the real effective official exchange rate had depreciated 33 per cent from the 1986 rate and 70 per cent from the 1980 rate. The repeated actions to devalue the yuan reflected the authorities' understanding that a realistic exchange rate would be the most important element of a successful trade strategy. These attempts helped to restore the connection between the domestic market and international prices; and significantly eroded the anti-export bias inherited from the traditional system.

Now to turn to the second question. Trade theory identifies a range of factors as gains from trade. In the conventional theory of international trade, gains from trade are derived from the alignment of domestic prices with the rates of transformation in the international market. Such gains are often referred to as the direct static effects of trade.

International trade also bestows important indirect dynamic effects. Although conventional trade theorists do not deny the compatibility of the dictates of comparative advantage with the requirements of dynamic growth, they fail to take the indirect effects of trade as a central element into their thoughts. It is in the hands of new trade theorists that the dynamic effects of trade have become the focus of attention. The benefits of trade as understood in the new approaches are the knowledge generation and spillover effects generated by export experience, import-embodied technologies, and trade promotion linkages, a subject carefully explored by Albert Hirschman.

The changing character of China's foreign trade during the post-reform period is consistent with expectations based on the theories considered above. On the policy front, China's sequential trade reforms started with an implicit hypothesis that foreign trade would affect the rate of economic growth positively and significantly. The relentless drive for opening up of the domestic economy to the world market and the spatial strategy were all motivated by the recognition of the potentially large gains that might be derived from trade expansion on the part of the Chinese government.

In the light of the aforementioned theoretical conjectures, the contribution of China's open policy to the post-reform growth acceleration can be understood in two ways. In the static sense, it refers to efficiency gains- the benefits that accrued to the economy through domestic resource reallocation due to trade activities. The opening up of the Chinese economy has contributed to substantial efficiency gains in domestic production, thanks to the competitive pressures of foreign markets and the technological gains from foreign investment. In addition the outward-oriented trade policy has also affected the domestic economy dynamically. One part of the main contributions along this line may have arisen from the larger total market available when exports were not discouraged, allowing for both increased capacity utilisation and economies of scale arising from specialisation. Another part may have derived from positive externalities and spillover effects. Trade may have served as means and vehicle for the dissemination of

technological knowledge, transmission of ideas, for the importation of know-how, management expertise and entrepreneurship. These effects of trade on the economy are captured by the statistical presentation in Chapter 5.

6.2.2 The Role of Township Enterprises

The growth acceleration observed over the post-reform period reflects in part the dynamism of TWEs. The TWEs have been growing at more than twice the rate of the economy, and accounted for up to 48 per cent of total industrial output by 1992.

The dynamic growth of TWEs in the reform era underlined the importance of the role of government policies. As noted in Chapter 3, TWEs trace their origins back to the early 1950s, and had grown slowly over the two decades prior to the emergence of economic reforms in 1979. The major factor that had dampened TWEs growth was the administrative restrictions from the state⁶. Given the nature of a command economy and the characteristics of the political regime which prevailed during that period, this should claim much, if not all, the responsibility for the sluggish growth of the TWEs observed in the pre-reform period. Following the dramatic rural reform introduced in the late 1970s and the early 1980s, the government, in an attempt to encourage TWEs development, released the policy constraint that was formerly put on TWEs, and directed attention towards restructuring the existing TWEs and improving TWE management. However, substantial effort was not put into TWEs until after the promulgation of the celebrated Central Document Number 4, which is the single most important policy provision from the State in the 1980s. It marked the beginning of subsequent rapid growth of the TWEs.

⁶ See Chapter 3 for a brief discussion. For a more elaborated review see Zhang Yi (1990a, 161-168), and MCTEEB (1991, Ch. 2 &3).

A second factor that significantly contributed to the impressive growth of TWEs is rural reform. The rural reform had two direct bearings on the development of TWEs. With the restructuring of communes and the decollectivisation of farming, a huge number of rural labourers became surplus to farming needs. In order to diversify rural economic structures, the State encouraged peasants to leave arable farming and concentrate on stock-raising, forestry, horticulture, handicrafts, small-scale industries, or services. On the other hand, the marked increases in both agricultural output and rural household income provided the necessary material input and required investment funds. These factors were essential contributing elements from the supply-side.

The increases in demand from both the domestic and international market was another contributing factor to the rapid growth of TWEs. There were two sources of new demand in the domestic economy that stimulated TWE development. A first source of new demand came from the rapid expansion of light industries, particularly textiles, throughout the 1980s and early 1990s. The strong growth of these industries generated massive demand for both production materials and consumption goods. In addition the continued expansion of exports stimulated TWEs growth, which in turn generated further demand through both forward and backward linkages.

The TWEs have contributed to the economy in a number of important ways. First, TWEs fostered and boosted rural industrialisation and urbanisation, which in return generated massive investment demand and demand for consumer goods and materials for industrial inputs, thereby stimulating growth of the agricultural and industrial sectors.

Second, the superior growth of TWEs and the concomitant high rate of enterprise saving has to a large extent compensated for the inefficiencies of the state-owned enterprises (SOEs), thus contributing to overall financial stability. In addition, TWEs, by absorbing a huge number of excess rural labourers from arable farming, has

stimulated employment, and hence contributed to social stability, which was a highly important condition for the achievement of rapid and sustained growth.

Third, the TWEs provided authorities with a variety of models indicating possible ways to reform traditional institutions and practices so that they are more conducive to economic growth under a functioning market economy.

In short, the rise of TWEs in the post-1978 period was essentially an outcome of government policies. On the one hand, the rapid growth of TWEs was mainly fuelled by the large supply of agricultural products, excess rural labourers and increased rural savings which resulted from the changes in rural institutions and policies that occurred over the post-reform period. On the other hand, the high growth of TWEs also reflected the changing demand conditions in both the domestic and international markets. These included the rapid expansion of light and textile industries throughout the 1980s and early 1990s and continued expansion of exports. In addition to the above-mentioned important functions, the TWEs have also played a crucial role in complementing the dynamics of domestic demand and supply through participating trade activities.

6.2.3 Savings and Investment

Investment is an important element in the remarkable growth performance of the Chinese economy. Over the period 1978-92, total fixed investment grew at an average annual rate of over 12 per cent. The regions on average experienced even faster growth in fixed investment. The principal factor accounting for the continued growth of investment is the progressive decentralisation of economic decision-making power that occurred in the system of investment⁷. Two other essential factors that contributed to the strong growth of investment were foreign investment and growing investment demand, which was derived largely from booming infrastructure construction, the

⁷ For a further discussion of this issue see Wanda Tseng *et al.* (1994, 36-39).

accelerated growth of energy industries and the expanding service sector in the economic reform era.

On the supply side, the high levels of investment were sustained largely by high domestic savings. China has attached overwhelming importance to the rate of capital accumulation. Even before the reform, high savings and hence high levels of capital formation were nearly always sanctioned by the authorities to fuel the growth process. However, the high levels of investment were translated into consistently impressive growth only with the revamping of the incentives structure and the internationalisation of the economy which started in the late 1970s.

As distinct from the pre-reform period, China has come to recognise the potentially valuable contributions that foreign investment can make toward the realisation of national development objectives. Apart from its role in employment expansion and balance of payments reinforcement, foreign investment is widely perceived- in China- to be an important channel through which China acquires technology, skills, managerial expertise, and market access. Starting at a low level in the early 1980s, DFI flows into China, partly reflecting the activities of multinational corporations, rose to reach US\$ 11 billion in 1992⁸. DFI inflows amounted to a record of over US\$ 25 billion in 1993. In cumulative terms, during the period 1978-1993, China has approved 174,000 foreign-funded projects with the pledged investment US\$ 221.9 billion and actual investment amounting to US\$ 61.8 billion. Much of the DFI came from Hong Kong, Singapore, and Taiwan, China (Wu Yi, 1994). FDI flows have been associated with technology transfers to China, and textile and footwear exports from China.

Studies have drawn a connection between growth in DFI flows and an open policy environment in the newly industrialised economies. Similarly, behind China's massive

⁸ State Statistics Bureau (1993a, 647).

foreign capital inflows lies a supportive policy environment. Indeed, policies to encourage foreign capital inflows have been pursued from the outset of the economic reforms. A most notable initiative taken by the government was the promulgation of the July 1979 law on joint ventures. This is the earliest legal document regarding equity joint ventures and is also the first legal document on foreign investment. Perhaps the most influential step at the early stage of the reform was the creation of the four SEZs. The establishment of the SEZs was the first step in China's spatial open strategy. A defining feature of the SEZs is the decentralisation of financial and administrative powers that permits investment decisions to be taken outside the state plan. Throughout the 1980s and early 1990s, China exerted great efforts to improve the legal and policy framework concerning foreign investment. Although foreign capital has only played a limited role in terms of total investment, it made a substantial contribution to the record trade performance and improved technology.

Thus far there has been a plenty of evidence in support of the presence of a positive role of government policies in the growth process. In essence the phenomenon of rapid and sustained growth and dramatic structural shifts as observed in China post-1978 should be understood primarily within the context of political economy, concretely as a process in which the government has played a strategic role in utilising the domestic and international market forces to achieve the goal of economic development. Specifically, the importance of the role of the government in the growth process, in the light of the findings from this study, is reflected in four critical policy aspects: creating and maintaining growth-friendly macroeconomic policies; securing openness to international trade, investment, and technology; creating an environment that encourages private investment- both domestic and international- and competition; sustaining high and growing investment in human capital.

6.3 Policy Implications

Several policy implications have emerged from the study and should be related to areas where further reform efforts are warranted and where further research is needed.

First, the study indicates that trade liberalisation and an export-promotion strategy promise a much higher payoff in terms of economic growth than traditional import substitution policies. China, since the inception of the reform process more than 15 years ago, has achieved considerable progress in liberalising the foreign trade system. In particular, this was reflected in the elimination of mandatory trade planning, the decentralisation of trade decisions; and in the exchange system, the adoption of a managed floating exchange rate system in which the rate of exchange is determined in a relatively open foreign exchange market. These changes in policies have been fruitful. The superior post-reform trade performance has resulted in rapid growth. The Rapid growth has accompanied dramatic structural transformation. Notwithstanding these achievements, the scope for further trade liberalisation remains substantial, particularly in the import regime.

China still operates a relatively complex trade regime. Imports are managed through tariffs, canalisation⁹, licensing and direct controls while licenses, quotas and taxes are used to regulate the export of a variety of products. The import tariff system still has a relatively high average rate with a wide dispersion of rates, represents an impediment to allocative efficiency and knowledge spillovers¹⁰. Although the potentially adverse effects of the tariff structure on the export sector, and more generally, on the economy, have been mitigated by extensive exemptions for exporters, the tariff system has caused effective protection to vary greatly across industries, and thereby directed the domestic

⁹ It refers to the practice of assigning import rights to one or a small number of designated foreign trade corporations. The purpose of canalisation is to facilitate plan implementation and the application of subsidies as required by the plan.

¹⁰ See Wanda Tseng *et al.* (1994, 5) for a discussion.

production away from raw materials and intermediate goods toward final goods¹¹ (Wanda Tseng *et al.*, 1994, 7). One of the goals of trade reforms should be to establish a relatively low and uniform tariff structure to spur efficiency in the allocation of resources and to facilitate realisation of beneficial spillovers.

Nontariff import barriers such as import licensing and quotas have continued to be applied to a big portion of imports in spite of the substantial reductions the government has introduced in recent years¹². International experience suggests that nontariff barriers tend to make the structure of protection less transparent and the import system more uncertain. They sever the link between domestic and international prices; and encourage lobbying, rent-seeking, and corruption. For these reasons, reductions in nontariff barriers, even if the protection level remains roughly the same, may have a large potential for benefiting the economy. Thus the direction of reform should be to reduce or phase out the nontariff barriers that are currently used; and replace them with tariffs. This is consistent with China's commitment to establishing a uniform and transparent system in which foreign trade is conducted within a clear legal framework and under uniform and transparent implementing regulations. This policy change which is required for China to resume GATT membership may adversely affect individual industries but will improve the efficiency of the economy as a whole

China has been a successful exporter despite protective import policies by progressively devaluing the domestic currency and by using export subsidies and other measures to offset import restrictions. This experience resembles that of Korea and

¹¹ The Chinese import regime reflects the biases of China's industrial policy and social objectives. Import controls help maintain inefficient intermediate and capital goods industries dominated by SOEs. In fact the greatest challenge of resuming GATT status is faced by SOEs, many of which could not survive in the post-GATT environment. This seems to be the major constraint that makes further compromise difficult.

¹² See Wanda Tseng *et al.* (1994) for a review of the issue of China's import licensing and controls.

Taiwan in the 1960s and 1970s¹³. One consequence of import protection in China has been limited backward linkages to the rest of the economy, with export industries operating largely as enclaves using domestic labour to process imported inputs (Thomas, 1994). The low domestic content of exports is in part due to the inadequate development of good quality intermediate products reflecting the widely dispersed tariff structure. Extending the benefits of exports so as to achieve sustained productivity improvements will require eliminating the distortions and restrictions described above.

Policies to promote exports which included the creation of SEZs, the adoption of fiscal incentives for attracting export-oriented DFI and the establishment of export production bases, have permitted China to demonstrate its potential for rapid export growth given a conducive policy environment. But the benefits from exports through these policies were largely confined to a relatively small segment of the economy. Further reforms in the trade and domestic economic systems can, through the acceleration of reforms in pricing, taxation and investment policies, and through the maintenance of a competitive exchange rate, and banking and the structuring of SOEs, increase the spillover of these benefits and ensure the dynamism of both the export sector and the economy.

Another major finding of this study is that state-owned enterprises were a growth-inhibiting factor in the post-reform economic growth process of China. This finding points sharply to the need for further restructuring of the public sector. Since the outset of China's economic reforms, substantial efforts have been made to improve the performance of the SOE sector. Throughout the 1980s and the early 1990s, the central theme of reform in the SOE sector was progressively to increase the managerial autonomy of the SOEs¹⁴. These reform efforts confronted the SOEs with increased competition and growing financial pressures that were associated with a gradual and as

¹³ See IBRD (1993a) and Wade (1990).

¹⁴ See Section 3.6, Chapter 3, Section 4.2, Chapter 4 for a review of this issue.

yet incomplete shift from a planned system to a functioning market economy. The resulting benefits have manifested themselves through improved efficiency and accelerated output growth¹⁵.

Notwithstanding the efforts undertaken since the outset of the economic reform, deep structural problems persist in the SOE sector. Against the background of its plunging share of industrial output, the SOE sector as a whole remains cumbersome and inefficient¹⁶. It is increasingly recognised that unless effective measures are taken to transform the structure of the SOEs, the problem of SOEs could retard the process of reform and dampen economic growth prospects in coming years.

The continuing weakness in the financial performance of the SOEs is largely institutionalised. One reason for the inefficiency of SOEs has been the lack of sufficient financial pressures as a result of access to soft funding. Although strenuous efforts have been taken- since the start of the full-scale urban reform- to tighten the budget constraint for SOEs, in general the SOEs have continued to face only soft constraints.

A second reason for the continuing problems with SOEs is associated with the rigidity of their management. In many ways the SOEs remain the appendage of the state agencies despite the progressive decentralisation drives launched through the 1980s and the early 1990s. The rigid mechanism has been transferred into inferior performance when the SOEs are brought to face tougher competition from the nonstate sector, from imported products, and from innovative rivals within the state sector (Naughton, 1992).

In view of the above, obviously the direction for further reform is to transform the SOEs into autonomous, competitive, legal entities that assume responsibility for their own finances. The core of reform is to change the governance structure and ownership

¹⁵ See Section 3.6, Chapter 3.

¹⁶ See Wang Yi (1995), Wanda Tseng *et al.* (1994, 41).

and management rights of SOEs. The policy options for achieving this objective should be carefully explored. In general policies must be consistent with the overall guide-line of speed, stability, and certainty. Since the SOE sector is deeply embedded in the systems of pricing, banking, public finance, taxation and social welfare, efforts toward restructuring the SOEs should be consistent and coordinated with reforms in these areas.

Foreign investment is another crucial area where further policy action is required. China has persistently pursued the formulation of a set of coherent and clear-cut foreign investment policies. To date the two major policy efforts have been the promulgation of a set of laws and regulations on foreign investment and the adoption of the spatial opening strategy. It is apparent from the content of these policy packages that the government has adopted highly positive positions toward foreign capital and, meanwhile, has chosen to exercise a degree of control over the developments associated with foreign investment. This dual feature is reflected in the management of existing structures of foreign investment¹⁷.

To further encourage foreign investment, several policy perspectives need to be scrutinised. Others need to be reconsidered. For example, foreign exchange balancing requirements for foreign-funded enterprises were first adopted in 1979. This policy was warranted considering the economic conditions that prevailed then; and it was perhaps significant as a instrument to encourage exports by these enterprises in the 1980s. But now with a relatively deregulated exchange market, such a policy has obviously become redundant. In principle, policy making needs to reflect the objectives of social development; and must be consistent with the rules of a market system. The policy alternatives in most cases should be carefully explored. Beyond these general requirements, several specific policies should be carefully formulated and evaluated. One is the "grafting" of SOEs with foreign investment. Apart from the factors observed

¹⁷ See Liu Xiangdong *et al.* (1993, 857-868).

above, the continued overall weak financial performance of SOEs also has reflected the backwardness of producing equipment and technology and the lack of management skills. Combining the restructuring of SOEs with foreign investment can, through operating joint ventures in certain lines of production or even whole projects, provide some solutions.

Another policy- one which perhaps should be accorded with high priority- is to further open domestic commerce, foreign trade, banking, insurance, aviation, etc., to foreign capital on grounds of economic efficiency. These areas had been specified as reserve areas for local investment before limited access was permitted for foreign capital in 1992. Since China is committed to moving toward a functioning market and transparent trade systems, encouraging foreign capital inflows into these areas is warranted.

The third policy concerns further opening the domestic market to foreign-funded enterprises. China has two unique attractions for DFI activities. One is its potentially huge market. The other is the supply of a relatively well-trained but inexpensive labour force. The latter has been an important factor accounting for the growth of DFI activities in labour-intensive industries, particularly shoe-making and textile and garment industries. But for large-scale, capital-intensive and high-tech DFI activities, accessibility to the local market is the priority consideration. In these areas a more open domestic marketing environment will increase China's attractiveness for foreign investors, while generating static gains from increased competition.

We now turn to the role of the state in promoting growth through public goods production and in particular the provision of physical and human capital infrastructure. As the findings of this study indicate, the dynamic economic growth in the post-1978 period has in part reflected the efforts of the government to improve the physical and human capital infrastructure. With respect to human capital formation, the government

has successfully pursued a number of policies to improve the quality and skills of the labour force. One is the in-job training, which have included special training for workers through distance education and classes outside work hours. The second is the enforcement of the provision of compulsory basic education, which has led to the much improved literacy of the population. The third policy choice was the restoration of normal tertiary education. To enhance human capital formation, the government needs to take further measures to monitor the quality of tertiary education while devoting more resources to the education sector.

6.4 Major Findings and Suggestions for Further Research

This study has intensively investigated the nature of the post-reform economic growth of China. It has found that *although there are numerous factors underlying the growth process of the post-reform economy, given the complexity of the issue of economic growth, the high growth of the Chinese economy has been essentially fuelled by the continued expansion of foreign trade, the rapid growth of the nonstate sector comprising TWEs and foreign-funded enterprises as well as the high levels and rates of savings and investment. These are in turn a function in large part of government policy choices. The importance of the role of the government in the growth process was reflected in four critical policy aspects: (1) creating and maintaining growth-friendly macroeconomic policies; (2) securing openness to international trade, foreign investment and technology; (3) creating an environment that encourages private investment and competition; and (4) sustaining high and growing investment in human capital.*

The above-mentioned major findings are consistent with the basic expectations of the theories summarised in Chapter 2. These findings have also confirmed a number of qualitative observations made in Chapters 3 and 4 concerning the growth of the Chinese economy. These results indicate a clear direction for policy changes in China: *Further*

promoting outward-looking export-oriented industries, reducing protectionism, improving economic efficiency and encouraging competition, and stabilising the macroeconomic environment.

There are two extensions that can be made from this study. The first extension from this study would be to disaggregate the total output into traded and non-traded output and link the growth of the aggregate economy with the traded and non-traded output growth. This approach can be appropriately applied to a sample of two types of regions: one that is closely involved in international trade; and the other that depends more on the domestic market. The results generated from this type of analysis will reveal the direction and strength of the sectoral linkages for the two different types of economies.

The second of the themes which we shall emphasise for further research concerns the exploration, at the sectoral level, of some of the main research questions raised in this study. This will allow us to identify specific policies to assist those sectors which are likely to be most affected positively as a result of trade expansion, growth of investment, and changes in policy environment.

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