

ISSN 1753-5816

School of Oriental and African Studies University of London

DEPARTMENT OF ECONOMICS
Working Papers

No.148

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March 2006

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<http://www.soas.ac.uk/economicsworkingpapers>

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March 2006

ABSTRACT China's sustained rapid economic growth over the post-1978 reform era, which is also the era of globalisation, is of worldwide importance. This growth experience has been based mainly on China's internal dynamics. In the first half of the era, economic growth was propelled by improvement in both allocative efficiency and productive efficiency. From the early 1990s until the present time, however, economic growth has been increasingly based on dynamic increasing returns associated with a growth path that is characterised by capital deepening. In both periods, the growth paths and their associated long-term-oriented institutions contradict principles of the free market economy – i.e., doctrines of globalisation. In the form of an analytical overview, this article seeks to explain and interpret the historical background, logic of evolution, and developmental and social implications of China's economic transformation. The analytics draws on a range of relevant economic theories including Marxian theory of economic growth, Post-Keynesian theory of demand determination, and Neo-Schumpeterian theory of innovation. It is posited that these alternative theoretical perspectives offer better insights than mainstream neoclassical economics in explaining and interpreting China's economic transformation.

*** Address for correspondence, January-March 2006 and January-March 2007; ††† Address for correspondence unless otherwise indicated, until July 2007. I wish to thank Perry Anderson, Andrea Boltho, Robert Brenner, Alfredo Saad-Filho, Susan Watkins and Zhang Yu for their comments on earlier versions of this essay. I am solely responsible for the views expressed in the essay, and any errors and mistakes that remain.

1. Globalisation Meets the ‘China Paradox’

Viewed from the perspective of worldwide economic development in the era of globalisation, that is, over the past quarter-century, China’s performance could be regarded as unique. The country has survived well the three waves of catastrophes that beset the non-Western world during this period. These catastrophes, namely, are: first, the ‘lost decades of development’ in most parts of the Third World since the early 1980s, second, the total crisis in countries of the former Soviet bloc since the mid-1980s, and, finally, the financial and economic crisis that engulfed most parts of East Asia in the closing years of the century.

What these catastrophes indicate is the transition of world economic development from the Golden Age of the 1950-70s to an era of prolonged stagnation since 1980. Along with the general stagnation, meanwhile, there has been a trend of growing disparity among major regions of the underdeveloped world – that is, a trend of uneven development.¹ As can be seen from Table 1, prior to the 1980s, the growth performance of most regions was rather satisfactory, while that of the newly industrialising economies (represented by South Korea and Taiwan in East Asia, and Brazil and Mexico in Latin America) could be considered as encouraging. And the record of countries of the former Soviet bloc was in no sense far behind the best performers. A totally different picture emerged in the stagnation era, however. The

¹ For an analytical overview of the worldwide developmental crisis and uneven development after the Golden Age, see Ajit Singh, ‘The actual crisis of economic development in the 1980s: an alternative policy perspective for the future’ (in A.K. Dutt and K. Jameson [eds.] *New Directions in Development Economics*, Aldershot: Edward Elgar, 1992). John Weeks (‘The expansion of capital and uneven development on a world scale’ *Capital and Class*, 2001, no.74, pp.9-30) gives a more theoretical and updated treatment. Dic Lo (‘China after East Asian developmentalism’, *Historical Materialism*, 2001, no.8, pp.253-264) notes several structural features of the world economy that have been highlighted in the relevant literature as possible main causes of the crisis. Williamson Easterly, ‘The lost decades: developing countries’ stagnation in spite of policy reform 1980-1998’ (Working Paper no.27272, The World Bank 2001, www.worldbank.org), notes the almost total ignorance of the worldwide developmental crisis in the mainstream literature.

real growth rate of per capita income for all low-income and middle-income economies was a mere 1.3% per annum in the 1980s, and 1.8% in the 1990s. The same rate for all low-income economies excluding China and India actually fell sharply, from the already low level of 2.0% per annum in the 1960-80s to 1.2% in the 1990s. And the growth performance of middle-income economies meanwhile has not been any better. Thus, especially when the growing disparity across regions is taken into account, it is no exaggeration to call the 1980-90s the 'lost decades of development'. This is even more so for countries of the former Soviet bloc, where the average annual growth rate of per capita income in the 1990s was -1.7%.

[Table 1]

In this context, China's rapid and sustained economic growth since 1980, over and above its respectable record in the previous decades, is indeed unique. As also can be seen from Table 1, the country's per capita income grew at an average rate of 8.8% per annum in the 1980s and 9.3% in the 1990s, far exceeding the average of the Asia-Pacific region which is the best performer of the world during this period.² The growth performance is paradoxical

² The quality of China's statistical data has invited suspicions, but, in the scholarly literature, even the foremost sceptics accept that the actual growth performance over the long term is not significantly different from that indicated by official data (Thomas G. Rawski, 'Measuring China's recent GDP growth: where do we stand?', www.pitt.edu/~tgrawski, August 2002). Recent debates over the matter have centred around the quality of Chinese GDP data in the years after 1998. Two arguments put forth by Rawski have been particularly controversial. First, in view of the fact that virtually all Chinese provinces have reported their GDP growth estimates that are higher than the national average figures, and that China's statistics system is based on vertical reporting, Rawski argues that the reliability of the national figures must also be suspected. Second, based on the growth performance of various specific sectors (energy consumption, airline usage, etc.), as well as a range of press reports on the behaviour of data falsification by local governments, Rawski argues that China's actual GDP growth rates after 1998 must be much lower than the official figures. In response to Rawski's first argument, Xu Xianchun ('Main differences between China's GDP estimation and the current SNA system of GDP estimation', *Jingji Yanjiu* [Economic Research Journal], 2001, no.11, and 'The future prospects for China's economic growth and international economic status', *Jingji Yanjiu* [Economic Research Journal], 2002, no.3) contends that the National Bureau of Statistics has

as well, given that China's economic institutions and policies have long been dismissed by the world orthodox establishment – that is, the Washington establishment and its associated free market doctrines – as by nature seriously deviating from the canonical free market economy, and being akin to the crisis-causing factors of the three groups of economies indicated in the opening paragraph of this article. How, then, has this 'China paradox' come about? Does there really exist a distinctive, discernible 'Chinese model of economic transformation' that has underpinned the spectacular developmental performance?

2. China in the Transition Orthodoxy

Talking about 'the China paradox', of course, would imply a challenge to the free market doctrines, and the orthodox establishment has been outspoken in rejecting it. A recurring claim has it that, given a longer time span, an economic collapse of comparable (to the East Asian crisis, if not the Russian depression) scale is bound to occur in China, as a punishment for its deviation from the established, universal doctrines.

What the orthodox establishment considers as anomalous, indeed objectionable, in China's reformed economic institutions concerns, ultimately, the widespread violation of the principles of individualistic property rights. Easily observable phenomena such as discrete

developed an increasingly sophisticated system to verify the reliability of data reported by lower-level authorities, and has accordingly made the necessary adjustments. In response to Rawski's second argument, in the literature, there have also emerged a range of contending views that highlight the fast expansion in imports, the money supply, fiscal revenues and the like as being in line with the economic growth performance indicated by official GDP data. It is also of importance to note that, following the 2005 Economic Census, in December 2005, the Chinese government substantially revised upwards the figures regarding the actual size of the country's GDP as well as its growth rates over the 1990s (for consistency with data of the 1980s this article does not incorporate the revised data). This contradicts the allegation of exaggerated reporting in official statistical data. On the whole, whilst the indicated debates have remained inconclusive, the analysis of this article is unlikely to be significantly affected because its focus is on long-term performance.

government intervention in economic affairs (the state-business relationship), soft budget constraints (the finance-industry relationship) and rigid employment and compensation systems (the worker-enterprise relationship) are deemed symptoms of this ultimate disease. Thus, in the scholarly circles associated with the orthodox establishment, there has long been a proposition stating that China's reformed economic institutions are a mix of market-conforming and market-supplanting elements, that its developmental achievements so far have been ascribable to the conforming elements whereas the accumulated problems being ascribable to the supplanting elements, and that the problems have tended to outweigh the achievements as the country's economic transition proceeding from the allegedly easy phase to the difficult phase. The future prospects for the Chinese economy, the proposition maintains, is at best uncertain and more likely crisis-prone. And the only way to avoid this looming crisis is to embrace the orthodox doctrines *in toto*, particularly via mass privatisation of state firms and liberalisation of external economic transactions.³

To put the above proposition in context, it should be noted that China's experience of economic development and systemic reform has posed a serious challenge to the orthodox doctrines – known variously as 'market fundamentalism in transition' (IMF 2000) or 'the transition doctrine of the Washington consensus' (Stiglitz 1999) – in the so-called transition debate. Back in the early 1990s, Martin Weitzman, an influential economist, apparently being puzzled, spelt out the following: 'According to almost any version of standard mainstream property rights theory, what has been described as the "East European model" basically represents the correct approach to transformation, while what we are calling the "Chinese model" should represent a far-out recipe for economic disaster... The central paradox is the

³ Examples of this claim abound, see, e.g., *The Economist* 24th-30th October 1998, pp.15-16 and pp.23-28. For a scholarly version of this view, see N.R. Lardy, *China's Unfinished Economic Revolution* (Washington, D.C.: Brookings Institution Press, 1998). See also IMF, *World Economic Outlook* (Washington, D.C.: The International Monetary Fund, October 2000) and the World Bank, *Transition – The First Ten Years: Analysis and Lessons for Eastern Europe and the Former Soviet Union* (Washington, D.C.: The World Bank, 2002), for more recent accounts from the orthodox establishment.

enormous success of the Chinese model in practice, contrasted with the sputtering, tentative, comparatively unsuccessful experience with the East European model.’⁴ The Chinese experience appears to indicate that adherence to principles of individualistic property rights is neither necessary nor sufficient for generating sustained rapid economic growth – indeed for avoiding economic stagnation. The credibility of the orthodox doctrines is thus at risk if not having an adequate explanation of the seemingly anomalous Chinese experience.

In the face of this ‘China challenge’, the orthodox establishment has responded by means of relying on the proposition indicated above that focuses on the institutional aspect, as well as a second, related proposition on economic development. The World Bank, in its 1996 *World Development Report*, which is devoted to the ‘economics of transition’, frames such a question for itself to answer: ‘Do differences in transition policies and outcomes reflect different reform strategies, or do they reflect primarily country-specific factors such as history, the level of development, or, just as important, the impact of political changes taking place at the same time?’⁵ The answer, unsurprisingly, is that differences in country-specific factors, particularly the different levels of industrialisation, have largely explained the disparity in actual economic performance. Both in China and in countries of the former Soviet bloc, the development experiences – sustained rapid growth in the former case, depression in the latter case – are largely unrelated to their respective strategies of systemic transformation and development policies. Unlike countries of the former Soviet bloc, China was fortunate to be with a low level of industrialisation in the beginning of its reform. It has thus been able to

⁴ Martin Weitzman, ‘Economic transition: can theory help?’ (*European Economic Review*, 1993, vol.37, pp.549-555), p.549. Weitzman did not provide a general answer to this question. Nevertheless, in a subsequent paper with Chenggang Xu on the acclaimed development of China’s collective township and village enterprises (‘Chinese township-village enterprises as vaguely defined cooperatives’, *Journal of Comparative Economics*, 1994, vol.18, pp.121-145), Weitzman raises a proposition – in the spirit of the theories of idiosyncratic exchange and incomplete information – which states that vaguely-defined property rights do have distinctive competitive advantage under certain structural and institutional conditions.

⁵ World Bank, *World Development Report* (New York, Oxford University Press, 1996, p.5).

generate economic growth via labour transfer from the rural-agricultural sector to industry, whilst postponing the needed, unavoidably painful reforms.⁶

It should be clear that what underpins both of the two orthodox propositions is the notion that economic development is somehow easy or normal – the notion of the so-called ‘natural path of development’. This does not fare well with the dismal picture of late development on the world scale, as depicted above with reference to Table 1. After all, it should be noted that China’s growth performance in the era of systemic transformation stands in sharp contrast to not only countries of the former Soviet bloc but also most of the non-Western countries.⁷ And it is also noted that the initial condition of China’s economic transformation is not simply one of under-industrialisation. As can be seen from the figures in Table 2, in 1980, industrial value-added accounted for an astonishingly high proportion of 49% of China’s GDP. This is lower than the Soviet Union (54%), but higher than South Korea (40%), Brazil (44%) and India (24%) in the same year. The fact that, despite starting with one of the highest industry-to-GDP ratios in the world, China has been able to maintain very rapid industrial growth throughout the reform era, and with it to absorb labour transfer from the rural-agricultural sector, clearly should not be taken for granted.

[Table 2]

⁶ This view was pioneered by Jeffrey Sachs, a leading figure in the army of Western advisers to countries of the former Soviet bloc in designing their systemic transformation strategies. See Jeffrey Sachs and Wing-Thye Woo, ‘Reform in China and Russia’ (*Economic Policy*, 1994, no.18, pp.101-145).

⁷ Joseph Stiglitz (‘Whither reform? Ten years of the transition’, keynote address at the Annual Bank Conference on Development Economics, Washington D.C.: The World Bank, April 1999), then chief economist of the World Bank, was outspoken in criticising this notion of the transition orthodoxy. He maintains that China has faced a task of economic transformation that must be more difficult than that faced by countries of the former Soviet bloc – because China’s task encompasses simultaneously both systemic reform and economic development, rather than systemic reform alone. Clearly, this statement suggests that economic development is by no means a natural or easy process. This message is a basic tenet of what has been termed, somewhat grandiosely, ‘the post-Washington consensus’.

In terms of the immediate causes of economic growth, it might well be true that China's growth pattern in the 1980s and 1990s is not really unusual compared with the wider, underdeveloped world as a whole in the second half of the twentieth century. Three general observations pertaining to the worldwide experience of late development are of note. These, namely, are: first, late development is often associated with the process of industrialisation, in the form of an increasing share of employment of resources and production of output by industry in the economy; second, there exists a positive relationship between output and productivity growth within the industrial sector; and, third, there also exists a positive relationship between industrial growth on the one hand, and the output or productivity growth of the rest of the economy on the other hand.⁸

China's real growth rate of industrial value-added reached 11.1% per annum in the 1980s, and increased further to the rate of 13.7% per annum in the 1990s. These rates are much higher than the average of all low-income economies meanwhile, 5.5% and 2.7%, respectively for the two periods, as well as that of all middle-income economies, 3.6% and 3.9%, respectively. They are also substantially higher than the average of the East Asian high-growing economies (including China itself), the star performers of the underdeveloped world, where the average annual growth rates during these two periods are both 9.3%. No wonder, therefore, China's overall economic growth in the 1980-90s has far outstripped most parts of the underdeveloped world. Figure 1 charts out the evolution of labour productivity of Chinese industry relative to the rest of the economy, both in nominal and real terms. It can be seen that

⁸ These observations are known in the literature as the 'Kaldorian stylised facts', while the interpretation attached to them by Nicholas Kaldor is known as 'the Kaldor-Verdoorn Laws' (N. Kaldor, *Causes of the Slow Rate of Economic Growth in the United Kingdom*, Cambridge: Cambridge University Press, 1966. See also J.S.L. McCombie and A.P. Thirlwall, *Economic Growth and the Balance-of-Payment Constraint*, London: Macmillan, 1994.) It is noted that, whilst the interpretation has been a matter of debate, the observations themselves have been largely a consensus in the literature. See M. Syrquin, 'Structural transformation and the new growth theory' (in L.L. Pasinetti and R.M. Solow [eds.] *Economic Growth and the Structure of Long-Term Development*, London: Macmillan, 1994).

the curve representing relative labour productivity at constant prices has been persistently above that representing relative labour productivity at current prices. This indicates the transfer of productivity gains in the industrial sector to the rest of the economy via changes in relative prices, thereby propelling overall economic growth. Moreover, the fact that the gap between the two curves has tended to widen over time implies that the pace of productivity transfer has tended to accelerate. It is thus clear that, regarding the immediate dynamics of economic growth, the Chinese experience over the reform era is industry-led growth.⁹

[Figure 1]

3. The Role of External Factors: Causation or Correlation?

It is necessary to go beyond the immediate dynamics of economic growth (which is common to experiences of late development) to investigate the underlying, structural-institutional causes of the dynamics (which could be China-specific). In view of the relevant literature on industry-led growth, and on the ‘Kaldor-Verdoorn Laws’ indicated above, it is often posited that productivity growth in an economy is typically generated by the interaction between particular structural-institutional arrangements and the demand environment – the two aspects

⁹ In the spirit of the ‘Kaldorian stylised facts’ indicated above, simple regression analyses of China’s 1978-2004 data give the following results:

$$\begin{array}{lll}
 G_n = 5.558 & + & 0.204 G_i & \text{Adjusted-R}^2 = 0.112 \\
 & & (2.041^{**}) & \\
 Q_i = 0.466 & + & 0.783 G_i & \text{Adjusted-R}^2 = 0.388 \\
 & & (4.107^{***}) & \\
 Q_n = -0.369 & + & 0.492 G_i & \text{Adjusted-R}^2 = 0.258 \\
 & & (3.110^{***}) &
 \end{array}$$

where, G and Q denote the real annual growth rate of output and labour productivity, respectively; the subscripts i and n denote industry and non-industry, respectively; and figures in parentheses are t-statistics, with*, ** and *** indicating significant at 10%, 5% and 1% confidence interval, respectively. It can be seen that China’s growth pattern in the reform era fits well with the three stylised facts.

combine to form a particular path of economic growth. Hence, further investigation into the dynamics of China's economic growth needs to take as its point of departure the following question: what is the source of demand that has underpinned Chinese industrialisation over the reform era? It is noted that, on the world scale during this period, a main factor that has impeded late industrialisation comes precisely from demand-side constraints.¹⁰ Also recall that China's rapid industrial growth has been achieved in the context of starting in the late 1970s with one of the highest industry-to-GDP ratios in the world. There must exist some peculiarities with China's economic growth path in the reform era such that the accelerating pace of industrialisation has found its necessary demand conditions.

A popular answer from the orthodox establishment to the demand question is to focus on the external dynamics of China's economic transformation, that is, to put the emphasis on the country's very fast expansion in exports in the reform era. It is posited that China has followed the path of labour-intensive, export-oriented industrialisation on the basis of its (endowment-determined) comparative advantage, which is in turn posited to be manifestation of the 'natural path of development'. If it is further posited that China's export-oriented sector is precisely its market-conforming sector, then, once again, the two orthodox propositions described earlier are as if being preserved.¹¹

There are serious problems with this view, however. In the first place, it begs the question as to why such a presumably easy process of export-led growth has not occurred in the wider underdeveloped world in a period known as globalisation. Concerning the actual

¹⁰ Ajit Singh ('The actual crisis of economic development') analyses the slowdown in late industrialisation with an emphasis on the worsened demand conditions after the Golden Age. Lance Taylor and C. Rada ('Can the poor countries catch up? Sources of growth accounting give weak convergence for the early 21st Century', The Schwartz Working Papers no.2003-4, <http://www.newschool.edu/cepa/publications/workingpapers/index.htm>, CEPA, New School University, 2003) provides a more recent analysis along the same line of arguments.

¹¹ World Bank, *World Development Report* (New York, Oxford University Press, 1996, ch.9). See also N.R. Lardy, *Integrating China into the Global Economy* (Washington, D.C.: The Brookings Institution, 2002, ch.2-4).

Chinese experience, it also appears to be dubious to claim that the economic growth is export-led and that it is easy. At one level, according to national income accounting identities, what counts as a constituent of aggregate demand is net exports, not gross exports. As can be seen from Figure 2, in the period from 1978 to 1993 inclusive, there were eight years out of the total of 16 where China actually registered trade deficits. And for the eight years that were with trade surpluses, the ratios of net exports to GDP vary from 0.02% to 2.90%. It is only from 1994 onwards that China has registered persistent trade surpluses. Even then, the ratios of net exports to GDP have remained rather low, reaching 3.86% at their highest. Given the low net exports-to-GDP ratios in most parts of the reform era and even in recent years, it is an exaggeration to claim that exports have served as the main source of demand for China's economic growth. Such a judgement is unlikely to be significantly altered even if one takes into account possible crowding-in effects of exports on the expansion of the other two components of aggregate demand, i.e., consumption and investment.¹²

¹² In line with our exposition on China's dynamics of industry-led growth, the discussion here focuses on the impact of exports expansion on economic growth by means of propelling demand expansion. Theoretically, there could be other channels through which exports impact on growth. In particular, it is often posited in the development literature that exports expansion could promote the improvement in allocative and productive efficiency of domestic industry via the pressure of competition in the world market (Andrea Boltho, 'Was Japanese growth export-led?', *Oxford Economic Papers*, 1996, vol. 48, 415-432, reviews the main theories of export-led growth). Viewed even in this broader perspective, Chinese experience over the reform era still does not clearly appear to be a case of export-led growth. Simple regression analyses of China's 1978-2004 data give the following results:

$$\begin{aligned}
 y &= -0.076 - 0.002 x && \text{Adjusted-R}^2 = -0.041 \\
 & && (-0.089) \\
 y &= -0.114 + 0.008 x - 0.335 l + 0.658 k && \text{Adjusted-R}^2 = 0.022 \\
 & && (0.303) \quad (-0.949) \quad (1.255) \\
 (NY)n &= -0.268 - 0.117 x + 0.626 l + 0.728 k && \text{Adjusted-R}^2 = 0.184 \\
 & && (-2.890^{***}) \quad (1.116) \quad (0.874)
 \end{aligned}$$

where, Y , X , L , and K are GDP, exports, labour employment, and value of the capital stock, respectively, with lower-case letters denoting the real annual growth rate of the corresponding variables. It can be seen from the first regression result that the correlation between exports

At another level, meanwhile, the claim that China's export expansion has been largely based on its 'given' (endowment-determined) comparative advantage, and hence must be easy, should also be viewed with serious suspicion. One counter indicator, presented in Table 2 above, concerns the proportion of high-tech products in total manufacturing exports: in 2003, for instance, the ratio was 27% for China, which is higher than India (5%), Brazil (12%), Russia (19%), and the average of all middle-income economies (21%). This ratio for China is rather close to that of South Korea (32%), the latter being generally recognised as a mature industrial economy. Yet, apart from India, all these economies are with much higher levels of per capita income, and hence much lower degrees of 'labour abundance' or 'capital shortage', than China. Conversely, it becomes difficult for China's expansion in high-tech exports to be explained by the theory of 'given' international comparative advantage.

In fact, in relation to the expanding high-tech exports is the large and very rapidly expanding share of electronic products in China's total manufacturing exports, from 6% in 1988 to around 36% by 2004 (data from the website of China's Ministry of Commerce). In terms of production characteristics, it can be shown that the electronics industry has a level of per worker output value that is normally twice as high the average of Chinese industry. Yet, it is customary in trade analysis to characterise industries with a value of relative labour productivity exceeding unity as capital- and technology-intensive. In other words, a large and rapidly expanding share of Chinese exports simply does not accord with the country's 'given' comparative advantage. The point to note from these indicators of Chinese exports is that the performance is not really an automatic, natural outcome of the regulation of the world market.

growth and economic growth is statistically insignificant. The same applies to the correlation between exports growth and productivity improvement, as can be seen from the second regression result. Finally, in the case of the third regression where the equation is constructed in a way to exclude the spurious effect of the national income accounting identity $Y \equiv C + I + G + X - M = N + X$, (where C , I , G , and M are consumption, investment, government expenditure and imports, respectively), it is found that the correlation between exports growth and economic growth becomes statistically significant – but the correlation is negative.

It must be part of – rather than being the cause of – the overall dynamics of Chinese industrialisation.¹³

The above points appear to remain valid even if one goes one step further to take into account the role of foreign capital in China's economic transformation. It is often alleged that inward foreign direct investment (FDI), the hitherto main form of foreign capital utilisation in China, has in a very significant measure contributed to the country's economic development – in the form of the addition to capital formation, the transfer of better technology and management practices, the promotion of structural and institutional changes in the direction of raising the efficiency of the economy, etc. Further, there is the oft-highlighted observation that a significant and rapidly expanding share of Chinese exports has been accounted for by foreign capital invested enterprises (FIEs). Based on these beliefs, allegations and observations, there has come out the assertion that China's economic growth has been to a large extent driven by the inflows of foreign capital and the operations of FIEs.¹⁴

¹³ Dic Lo and Thomas Chan ('Machinery and China's nexus of foreign trade and economic growth', *Journal of International Development*, 1998, vol.10, no.6, pp.733-749) analyse the implications of China's massive expansion in the export of mechanical and electronic products since the mid-1980s, and argue that these exports have largely leapfrogged over the country's 'given' comparative advantage. Masao Yoshitomi ('The comparative advantage of China's manufacturing in the twenty-first century', in OECD [ed.] *China in the 21st Century: Long-Term Global Implications*, Paris: OECD, 1996) gives a similar assessment: 'China has revealed comparative advantage vis-à-vis ASEAN countries in capital- and technology-intensive products despite a similar development stage and even lower per-capita income. China's comparative advantage in labour-intensive and natural resource-based products is essentially in relation to advanced countries and NIEs [newly industrialising economies], not ASEAN countries. However, it is also interesting to note that over the past ten years, China has been gaining comparative advantage relative to NIEs (in a broad range of technology- and capital-intensive industries).' See also Dani Rodrik, 'What's so special about China's exports?' (Kennedy School, Harvard University, 2006, <http://ksghome.harvard.edu/~drodrik>).

¹⁴ See, e.g., J-C. Berthélemy and S. Démurger, 'Foreign direct investment and economic growth: theory and application to China' (*Review of Development Economics*, 2000, vol.4, no.2, pp.140-155), and W. Tseng and H. Zebregs, 'Foreign direct investment in China: some lessons for other countries' (IMF Policy Discussion Paper PDP/02/3, 2002, www.imf.org).

The main problem with this orthodoxy-inspired assertion is that it does not fare well with the observable realities. Consider, first, the addition to capital formation brought about by foreign direct investment. As a ratio to gross fixed capital formation, FDI flows were of small magnitudes from 1979 to 1991. Massive increases do have occurred from 1992, with the ratio averaging to around 14% for ten years until 2004. This ratio is roughly twice as high the average for all developing countries. Nevertheless, because they were only a fraction of gross fixed capital formation, and the latter was in turn only a fraction of GDP, FDI flows could not account for a significant part of China's economic growth. A similar judgement can be made regarding the contribution to export earnings by FIEs. True that FIEs have accounted for a rapidly expanding share of China's total exports, exceeding 40% from 1996 and 50% from 2001 to reach 57% in 2004. Yet, it is also true that FIEs have accounted for an even larger share of total imports, staying at the level of 58% even by 2004. For 13 years from 1985 to 1997, FIEs ran sizeable foreign trade deficits every year, quite in contrast to China's overall trade surplus meanwhile. And, although FIEs have enjoyed trade surplus every year from 1998, such surplus has accounted for only a minor part of the national total.

What about the unobservable contribution of foreign capital? It is widely believed, and inferred from regression analyses, that FDI flows and the operations of FIEs have raised the efficiency of the Chinese economy – through such mechanisms as technology transfer, and the promotion of structural and institutional changes. But, again, this belief does not seem to fare well with the reality as a whole; and, insofar as the indicated inference does have its empirical backing, there is always a serious question of distinguishing correlation from causation (in the dictionary, not statistical, meaning of the term).

In this connection, it is of interest to note the contrast in productivity performance between the industries of the two main centres of China's FDI utilisation: Guangdong province vis-à-vis the Shanghai region (i.e., Shanghai municipality plus Jiangsu province). In 2003, the share of FIEs in the value-added of all local industrial enterprises was 59% for Guangdong province and 42% for the Shanghai region, compared with the level of 28% in China as a whole. It is well-known that Guangdong's economic development has followed a

path of labour-intensive, export-oriented industrialisation, in line with the principle of comparative advantage. It is also well-known that the Shanghai region has followed a development path that is in the opposite direction, i.e., inward-looking, capital-deepening industrialisation. Now, it can be seen from Table 3 that, from 1991 to 2004, the labour productivity of Guangdong relative to the national average decreased substantially while that of the Shanghai region saw a modest increase. These reflect their opposite industrialisation paths: relative to the national average, Guangdong industry has become more labour-intensive whereas Shanghai industry has become more capital- and technology-intensive. Yet, Table 3 also shows that, relative to the national average, the total factor productivity of Guangdong industry also decreased substantially whereas that of the Shanghai region again registered a modest increase. Taken together, these observations imply that, insofar as FDI has indeed been positively correlated to productivity growth, this has tended to be limited to such context wherein the development paths deviate from the principle of the market.

[Table 3]

Similar analyses of the relative productivity performance of industrial sectors in the country as a whole reinforce this point. There is no clear pattern of FIEs-dominated sectors having outperformed the rest of Chinese industry in terms of total factor productivity growth; and, for those FIEs-dominated sectors that have indeed had better-than-average performance, they have tended to be capital- and technology-intensive. It appears that FDI has been drawn into these sectors mainly because of dynamic factors, i.e., the potential for rapid productivity growth and/or demand-side considerations. Conversely, insofar as FDI is correlated to productivity improvement in the Chinese industries and regions, this is likely to be a matter of cumulative rather than unidirectional causation. Just like the relationship between exports expansion and economic growth, the positive contribution of FDI is part of – rather than being the cause of – the overall dynamics of the Chinese economy.¹⁵

¹⁵ Dic Lo, 'Assessing the role of foreign direct investment in China's economic development' (Economics Department working paper, SOAS, London, September 2003, <http://www.soas.ac.uk/departments/departmentsinfo.cfm?navid=437>); revised February 2006.

On the whole, from the discussion above on the economic impact of foreign trade and FDI flows, it seems reasonable to draw the following two conclusions concerning the role of the external dynamics in China's economic transformation. First, in aggregate terms, the role of the external dynamics is found to be modest. It is found that net exports as a source of aggregate demand and FDI as an addition to gross fixed capital formation have both been small in magnitude. Second, in the structural sense of industrial upgrading and of raising the efficiency of the economy, the role of the external dynamics cannot be clearly delineated but is unlikely to be in line with the orthodox notion of the 'natural path of development'. The positive impact of the external dynamics in this second respect is found to be part of, rather than being the cause of, the overall dynamics of the Chinese economy. In other words, the external dynamics is to a significant extent generated by China's domestic factors, rather than being the natural outcome of the logic of the world market.

Viewed from the perspective of worldwide late development, the Chinese model of economic development has thus exhibited both similarities and differences compared with the canonical 'East Asian model' of industrialisation as delineated by a number of renowned, non-orthodox exponents. On the similarity side, writers like Alice Amsden and Robert Wade, on the basis of their studies of the East Asian experiences, have forcefully argued that late industrialisation requires the building up of sophisticated production capability, which is not at all an easy task. And scholars that apply this theory to study Chinese industrialisation have come out with the conclusion that what is required for successful late development is not just production capability as such but rather the building up of indigenous innovative capability, indeed of an indigenous 'national system of innovation'.¹⁶ On the difference side, meanwhile,

¹⁶ Alice Amsden, *Asia's Next Giant: South Korea and Late Industrialization* (New York: Oxford University Press, 1989, ch.1); Robert Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization* (New Jersey: Princeton University Press, 1990, concluding chapters). Qiwen Lu, *China's Leap into the Information Age: Innovation and Organization in the Computer Industry* (New York: Oxford University

it appears that Chinese industrialisation is much less than its East Asian counterpart in relying on the external, world market as its source of demand and productivity growth. The external dynamics has played a comparatively less important role in the Chinese case.

4. The Internal Dynamics: the Demand Question and the Growth Paths

Thus, any convincing account of China's industry-led economic growth necessarily requires an explicit analysis of the internal dynamics. Recall that from Figure 2 it was clearly evident that, of China's aggregated demand, consumption accounted for a substantially bigger share in 1978-1992 than in 1993-2004. The opposite was true for the share of aggregate demand accounted for by investment. Corresponding to this change in the composition of demand is the evolution of the level of industrial labour productivity relative to the rest of the economy, shown in Figure 1. In the first half of the reform era, industrial growth (and hence overall economic growth) was to a large extent propelled by the transfer of unskilled labour from the rural-agricultural sector to the more productive industrial sector. This exerted downward pressures on industrial relative labour productivity. Since the early 1990s, however, industrial development has followed a new path that is characterised by 'capital deepening'. Industrial relative labour productivity has tended to rise, and at an accelerating pace. And the share of industrial labour employment in the national total has stagnated, in contrast to the persistent increases in the 1978-1992 period. Clearly, there was a fundamental break in the early 1990s whereby Chinese economic growth shifted from consumption-led to investment-led, and from 'industrial widening' to 'capital deepening'.

[Figure 3]

In this connection, for analysing the demand question in China's economic growth, it would be illuminating to follow a recurring thesis of Post-Keynesian (and arguably Marxian)

Press, 2000); William Lazonick, 'Indigenous innovation and economic development: lessons from *China's Leap into the Information Age*', paper presented at the Annual Meeting of the Business History Conference, Lowell, Massachusetts, 28 June 2003.

macroeconomics in focusing on income distribution. The starting point concerns the evolution of the structure of Chinese industry. As can be seen from Table 4, in the first half of the reform era and more conspicuously in the second half, a prominent feature of the evolution is the rapid expansion of the output share of heavy manufacturing industries, along with the shrinkage of extraction industries and light industries that use farm products as raw materials (particularly the industrial sectors of textile, clothing and leather products). A closer look at the evolution further reveals that it is the broad machinery sector, particularly the electronics industry, that has had the biggest gain in output share.

[Table 4]

This seems unusual. For, traditionally, it is a notorious character of the Soviet-type centrally planned system that the machinery sector plays a leading role in the economy. In the case of China, by 1980, the sector had already expanded to the extent of accounting for up to 23% of the total output of Chinese industry. Does the further expansion of the sector in the reform era, therefore, signify a continuation of the Soviet-type Feldman-Mahalanobis model of economic growth – that is, a growth path that is based on ‘producing investment goods for producing investment goods’ (or, in short, ‘producing machines for producing machines’)? In view of the actual situation, and of our preceding discussion on the inferences from Figures 1 and 2, the answer appears to be ‘no’ for the first half of the reform era and probably ‘yes’ for the second half.

In the first half of the reform era, the massive expansion of the machinery sector (and light industries using non-farm products as inputs) was actually associated with a phenomenal development that was felt by the entire Chinese population: the ‘consumption revolution’ signified by the explosive growth of a very wide range of consumer durables, ranging from electrical and electronic home appliances in the 1980s to mobile phones, personal computers and the like in the 1990s. These products are not investment goods, but they do belong to the mechanical and electronics industry. It was the explosive growth of these new consumer durables that accounted for the expansion of the machinery sector in the 1978-1992 period. And the machinery sector was the main driving force behind the growth of Chinese industry

as whole, as well as the transfer of productivity gains from industry to the rest of the economy via changes in relative prices and other mechanisms.¹⁷

In terms of technical and economic characteristics, the new consumer durables belong to mass-production industries that are characterised by rapid technological change, extensive backward and forward linkages and high income elasticity of demand. Their explosive growth in the first half of the reform era was thus sustained by the existence of mass consumption in the domestic market. More generally, it may be argued that China's rapid economic growth in the 1978-1992 period was based on a nexus of causal relationships that could be characterised as the following: consumption induced investment and thus overall demand expansion, thereby making it possible to absorb labour transfer from agriculture and to improve industrial productivity via dynamic increasing returns. In other words, there was a virtuous circle between consumption and production, and between industry and the economy. This characterisation of the fundamental dynamics of China's economic growth path is consistent with the three features of the Chinese economy indicated earlier: namely, the direction of structural change associated with the 'consumption revolution', the leading role of industry in economic growth in line with 'Kaldor's stylised facts', and the judgement that the external dynamics (the positive impacts of foreign trade and FDI flows) is mostly a consequence rather than a cause of the characterised internal dynamics.

The dynamics or nexus of causal relationships of China's economic growth over the first half of the reform era, characterised above, presupposes the existence of two necessary conditions. First, the process of structural change, which was the main driving force of economic growth, involved both a rapid expansion of the share of industry in the economy and the leading role of a wide range of new, consumer durables industries. The former aspect corresponds to the trend of labour transfer from agriculture to industry, and hence improving

¹⁷ Dic Lo, *China's Transformational Growth: A Structural-Institutional Analysis* (in Chinese) (Beijing: Economic Science Press, 2001) ch.3-4 analyses in details the role of the machinery sector, particularly the expansion of the indicated new consumer durables, in the dynamics of Chinese industrialisation and economic growth.

allocative efficiency, while the second aspect corresponds to the ‘Kaldor-Verdoorn Laws’ of improving industrial productivity via dynamics increasing returns. Second, there must exist an even, egalitarian pattern of income distribution, which underpins mass-consumption, thereby inducing investment and overall demand expansion. By income distribution it covers the total of both money and non-money incomes for Chinese people, particularly for urban residents in the first half of the reform era. The degree of egalitarianism is thus difficult to be gauged by conventional measures of income distribution such as the Gini index. Perhaps much more appropriate measures would be social development indicators such as life expectancy at birth, the infant mortality rate, and the adult illiteracy rate. It is well-known that, in these measures, China’s performance in the late 1970s was very close to the average of all middle-income economies in the world, in spite that it was a low-income economy. By the early years of the Twenty-First century, China’s performance in the social development indicators remained very close to the average of all middle-income economies, despite the fact that its economic growth in the preceding two decades had far outstripped the rest of the developing world. Overall, it would be appropriate to assert that, for the main part of the reform era, China’s pattern of income distribution tended to be egalitarian by international standard – although it is also true that egalitarianism tended to wither along with the market reform.

It was precisely the worsening of the pattern of income distribution under the market reform that led to the fundamental shift of China’s growth path in the early 1990s. Though not a very good measure, the Gini index does broadly indicate the trend of worsening income distribution. In 1978, the value of the Gini index in China was 0.16 for urban households and 0.21 for rural households, both being rather low in international comparison. By 1992, the value increased to a moderate level of 0.25 for urban households and a high level of 0.31 for rural households. By the year 2000, the value rose to high levels for both set of households: 0.32 urban, 0.35 rural.¹⁸ In this context, from the early 1990s until the present time, the

¹⁸ Data from Li Shi *et. al.*, *A Positive Analysis of Income Distribution in China*, (in Chinese) (Beijing, Shehui Kexue Wenxian Chubanshe, 2000) and *Renmin Ribao* (People’s Daily) 9th July 2002.

leading position of consumption has been taken over by investment in sustaining economic growth on the demand side. This resulted in the accelerating pace of ‘capital deepening’ in the path of economic growth, indicated in Figure 1. In contrast to the first half of the reform era, the contribution of the effect of labour transfer to economic growth – that is, the improvement in allocative efficiency as a source of productivity growth – has tended to be weakened. What has been of increasing importance is dynamic increasing returns within industry.

Conceptually, in the relevant theoretical literature, it is often posited that dynamics increasing returns are not determined by technical factors alone. Neo-Schumpeterian theory of innovations rather posits that dynamic increasing returns are typically determined by the interaction between technical factors and economic conditions, with the latter being referred to the demand environment plus the nature of the institutions involved. Demand-induced productivity growth typically takes the form of learning-by-doing effects, the inducement of investment for technological renovation and upgrading, and the deepening of the division of labour in the economy as a whole – the effects of collective learning, in short. And the nature of the economic institutions involved is discernible in their capability of taking advantage of the demand conditions to generate collective learning. More concretely, institutional attributes that are consistent with collective learning entail the requirement of rigidities – that is, long-term-oriented relationships between major economic agents, particularly the finance-industry and firm-employees relationships. These attributes are antithetical to the logic of allocative efficiency, whose realisation requires flexibilities, particularly the free movements of finance in the pursuit of high profitability. Post-Keynesian economics, similar to the Marxian notion of ‘productive activities’, tends to posit that dynamic increasing returns are mostly restricted to the manufacturing sector. This implies that its focus is on the purely technical dimension. Even the ‘Kaldor-Verdoorn Laws’, which represent an attempt to combine technical factors with the demand conditions, appear to be incomplete in analysing the sources of dynamic increasing returns. A complete analytical framework would require further incorporating the investigation into the relevant institutional attributes and their interaction with the technical factors and the demand conditions.

We leave the issue of institutional attributes in China's economic transformation to be analysed in the next section. To close our analysis of structural change and economic growth, it is useful to note that, in both Marxian and Post-Keynesian economics, demand expansion is normally determined by two sets of factors, exogenous and endogenous. Exogenous factors refer to the pattern of income distribution and that of consumption, and underpinning these patterns the history-specific political and cultural conditions. Endogenous factors, meanwhile, refer to the specificity of the economic growth path in question. More concretely, in Marxian economics, the sustainability on the demand side of a growth path based on 'producing machines for producing machines' is determined by the pace of production innovations. It is through production innovations that the variety of investment goods could continuously expand, and that the law of diminishing demand may not apply.¹⁹ The sources, and pace, of product innovations in Chinese economic growth particularly since the early 1990s are an important issue wanting scholarly studies. Nevertheless, one point seems clear: in addition to domestic generation, a very important source of product innovations is from continuous, large scale importing of foreign technology. It is in this particular respect that the external dynamics has played a crucial role in China's overall economic transformation.²⁰

¹⁹ Meng Jie, *The Innovative Transformation of Marxist Economics*' (in Chinese) (Beijing: Economic Science Press, 2001) provides a review and reformulation of the relevant theories, particularly on the role of product innovations in the debates surrounding Luxemburg's theory of capital accumulation and Mandel's theory of the long waves in capitalist development.

²⁰ Dic Lo and Thomas Chan ('Machinery...'). In contrast to the relationship between exports expansion and economic growth, simple regression analyses of China's 1978-2004 data of imports expansion and economic growth give the following results:

$$\begin{array}{rcl}
 y & = & -0.065 + 0.041 m & \text{Adjusted-R}^2 = 0.082 \\
 & & (1.795^{**}) & \\
 y & = & -0.084 + 0.046 m - 0.497 l + 0.215 k & \text{Adjusted-R}^2 = 0.139 \\
 & & (1.760^{**}) & (-1.545^*) \quad (0.389) \\
 (R/Y)r & = & 0.418 + 0.199 m + 0.435 l + 0.408 k & \text{Adjusted-R}^2 = 0.614 \\
 & & (5.164^{***}) & (0.913) \quad (0.496)
 \end{array}$$

where, Y , M , L , and K are GDP, imports, labour employment, and value of the capital stock, respectively, with lower-case letters denoting the real annual growth rate of the corresponding

5. The Internal Dynamics: the Institutions of Growth

The logical starting point in the nexus of causal relationships underpinning China's economic transformation, as depicted in the preceding section, is the existence of an egalitarian pattern of income distribution. This pattern of income distribution has been, in turn, based on China's specific political economy. Throughout the reform era, the economy has been dominated by public ownership, and within the publicly-owned sector (especially within state-owned enterprises) egalitarianism in distribution has been the norm. By the turn of the century, state-owned and collectively-owned enterprises still combined to account for two-third of the value-added of Chinese industry as a whole, with the rest being accounted for by the catch-all category of enterprises of 'other ownership' which include private firms, Sino-foreign joint ventures and shareholding firms. And, even for shareholding firms that are not formally state-controlled, a significant proportion (mainly those listed in the stock market) are actually with state agents as the ultimate owner-controller.

It is thus possible to turn back to view the orthodox establishment's first proposition on China – concerning the nature and attributes of its reformed economic institutions – in different light. What it considers as market-supplanting elements of the Chinese economy are precisely the egalitarian systemic features, particularly the institutions and behaviour of state-owned enterprises (SOEs). The concerned observation is widely agreed: that the institutional arrangements of China's SOEs have been contradicting the principles of the canonical market economy, especially individualistic property rights. Conceptually, in the relevant literature, China's enterprise reform has generally been portrayed as a process of the state attempting to

variables. Figures in parentheses are t-statistics, with*, ** and *** indicating significant at 10%, 5% and 1% confidence interval, respectively. The equation of the third regression is constructed in a way to exclude the spurious effect of the national income accounting identity $Y \equiv C + I + G + X - M = R - M$. In all the three regression results, the correlation between imports growth and economic growth is positive and statistically significant.

employ and induce entrepreneurial activities of the managerial layer. But, it is noted that this process has taken place in a broader context where various stake-holders of enterprises – local governments, workers, local communities, the banks and other business partners – have been involved to form a web of check and balance governing the operation and development of enterprises. This systemic feature is visible not only in SOEs but also in enterprises of other types of public ownership, so much so that some from the orthodox establishment have dismissively termed the renowned collectively-owned township and village enterprises (TVEs) as ‘the second state sector’.²¹

The crucial question, however, is: what are the implications of this rigidity-infused, long-term-oriented systemic feature of China’s industrial enterprises with respect to economic development? Specifically, even if it is true that this feature has its advantage of underpinning the egalitarian pattern of income distribution and mass consumption, as suggested above, has it also resulted in – as the orthodox establishment persistently maintains – gross inefficiency of enterprise at the micro level?

Of course, the assertion about the allegedly ailing state sector in China has been so popular in Western media that it seems trivial to answer the question. But, in the scholarly (rather than journalistic) literature, the assertion has in fact been a matter of debate. The debate first centres around the assessment of productivity change of SOEs in the reform era. Because of the very different estimation results of total factor productivity growth in SOEs obtained by different studies, and because of lacking objective criteria to resolve the difference, the orthodox assertion has been but just one, and far from being the dominant one, of the established views on the matter. Hence, and against the background of the East Asian

²¹ For analyses of the institutional attributes of China’s SOEs and TVEs, see, respectively, Dic Lo (*China’s Transformational Growth*, chapters 5-6), and Russell Smyth (‘Township and village enterprises in China – growth mechanism and future prospects’, *Journal of International Economic Studies*, 1998, vol.12, pp.101-117). Both studies observe that the reformed enterprise system – whether SOEs or TVEs – has exhibited the kind of institutional rigidities and long-term orientation that are akin to the canonical Japanese system, and argue that this system has embodied the kind of relative efficiency attributes detailed below.

financial and economic crisis, the orthodox establishment has shifted to base its assertion on the assessment of the financial performance of SOEs. It is claimed that the observed trend of declining enterprise profitability, together with the increasing ratio of non-performing loans of state-owned banks, are both symptoms of the same ill: the gross inefficiency of SOEs. It is further claimed that this must be treated as a matter of urgency, as otherwise an East Asian-type crisis is most likely to occur in China.²²

Compared with the second orthodox proposition (on development) indicated earlier in the article, this first proposition (on institutions) does not appear to fare better with the reality. On the one hand, it is a gross exaggeration to assert that the nexus of SOEs, state-owned banks and the state itself as a whole is anything on the verge of a financial crisis. The fact that China has survived well the East Asian crisis since 1997 flies in the face of this assertion. To the extent that the nexus has indeed accumulated financial problems, they are largely a result of the fiscal difficulty of the state rather than enterprise inefficiency. For, over the reform era, SOEs have paid all the social costs that should have been the responsibility of state finance. They have paid income taxes at much higher rates than other enterprises, while also facing serious under-capitalisation from the state-owner. On the other hand, the observed decline of enterprise profitability reflects more a macroeconomic issue than microeconomic inefficiency. As can be seen from Figure 4, the pre-tax profit rate of SOEs has in fact been very close to the average of all enterprises: slightly higher in the 1980s and slightly lower in the 1990s, while

²² Representative of the orthodox view on productivity growth are the works by Wing-Thye Woo, Wen Hai, Yibiao Jin and Gan Fan ('How successful has Chinese enterprise reform been? Pitfalls in opposite biases and focus', *Journal of Comparative Economics*, 1994, vol.18, pp.410-437; and, 'Reply to comment by Jefferson, Rawski and Zheng', *China Economic Review*, 1994, vol.5, pp.243-249). Representative of the dissident view are the works by G.H. Jefferson, T.G. Rawski and Yuxing Zheng ('Growth, efficiency, and convergence in China's state and collective industry', *Economic Development and Cultural Change*, 1992, vol.40, pp.239-266; and, 'Chinese industrial productivity: trends, measurement issues, and recent development', *Journal of Comparative Economics*, 1996, vol.23, pp.146-180). Along the orthodox line, the most articulate analysis of the financial aspect of Chinese enterprises is N.R. Lardy, *China's Unfinished Economic Revolution*.

both exhibiting a tendency of secular decline up until 1998, and of substantial rebound post-1998. Noting that China's accounting system has tended to underestimate depreciation, and hence to overestimate the capital stock of SOEs which are in general much older than non-SOEs, it could be argued that the profit rate of SOEs is likely to have been higher than industrial average throughout the reform era.²³

[Figure 4]

Figure 4 also shows that, throughout the reform era, the pre-tax profit rate of large-scale enterprises has been much higher than the industrial average. It can be verified that the same applies regarding the comparison of other performance indicators, such as output and productivity growth. Given that the vast majority of large-scale enterprises are in fact SOEs – that is, they have formed the core of China's state sector – it appears that the first orthodox proposition cannot be farther from the reality. What is more reasonable, therefore, is to see how this seemingly paradoxical reality could be made sense. In other words, what kind of advantage can be generated by the systemic feature of SOEs, which appears to have more than compensated for the (allocative) efficiency loss that is deemed unavoidable from the standpoint of orthodox economic theory?

It will be recalled that the reformed Chinese enterprise system has been infused with rigidities, especially with an emphasis on maintaining a long-term relationship with major stake-holders. This is akin to the canonical East Asian, or Japanese, system, and there are well-developed economic theories to explain the distinctive advantage and disadvantage of systemic features of this kind. Succinctly, in the context of steadily growing market demand,

²³ Dic Lo, 'Reappraising the performance of China's state-owned industrial enterprises, 1980-96' (*Cambridge Journal of Economics*, 1999, vol.23, pp.693-718) gives an assessment of the performance of SOEs, particularly large-scale enterprises, that is in line with the arguments presented here. Yuk-shing Cheng and Dic Lo 'Explaining the financial performance of China's industrial enterprises: beyond the competition-ownership controversy' (*The China Quarterly*, 2002, no.170, pp.413-440) contend that, even without taking into account social burdens, the financial performance of SOEs has been at least comparable to the rest of Chinese industry while that of large-scale SOEs has been much better.

industrial firms that are infused with rigidities and long-term orientation are especially capable of improving productivity via various kinds of dynamic efficiency, particularly through collective learning. By contrast, in the context of stagnant or contracting demand, firms of this kind have difficulty in adjustment and hence tend to be out-competed by flexible, market-conforming and short-term-oriented firms.²⁴

The above theoretical argument appears to be reasonable for explaining the fact that, on existing indicators, China's SOEs out-competed non-SOEs in the demand-expanding 1980s but were out-competed in the demand-stagnant 1990s. Conversely, such an explanation also pushes to the forefront the most prominent feature of the Chinese 'model' of economic transformation. This, namely, is the basically appropriate match between mass consumption at the macro level and the long-term-oriented behaviour of enterprises at the micro level, and, behind this, that between the egalitarian income distribution and the systemic feature of enterprises being accountable to major stake-holders. Needless to say, the significance of this match is no less than the sustained rapid economic growth itself. It offers the opportunity for China to embark on a path of late development that takes a strongly socialist character.²⁵

²⁴ Masahiko Aoki, 'Toward an economic model of the Japanese firm' (*Journal of Economic Literature*, 1990, vol.28, pp.1-27), provides a schematic, theoretical exposition on the relative efficiency attributes of the (both stylised) Japanese firm vis-à-vis the American firm. Dic Lo and Russell Smyth, 'Towards a re-interpretation of the economics of feasible socialism', (*Cambridge Journal of Economics*, 2004, vol.28, no.6, pp.791-808), in a similar vein, synthesise a range of theories on technological paradigms, growth paths and economic institutions to investigate the relative efficiency attributes of different economic systems.

²⁵ In line with our discussion on sources of productivity growth in the previous sections, an analysis of the relative efficiency attributes of SOEs vis-à-vis non-SOEs in the following way will be of interest. Recall the Kaldor-Verdoorn Laws state that there exists a positive relationship between output growth and productivity growth. In the literature of endogenous growth theory, this view has been synthesised with the neo-Schumpeterian proposition that productivity growth is the result of interaction between micro institutions and the macro demand-side conditions. Hence the following model for analysing the institutional sources of productivity growth

$$\Delta \ln P_t = a + b(\ln P_{t-1} - c \ln Q_{t-1}) + d \Delta \ln Q_t$$

But, it is also at this point that the constraints confronted by the pattern of economic transformation depicted above are clearly exposed. The introduction of market practices might be necessary for the formation of micro-level incentives for economic development, but market reforms in the strict sense – that is, principles of individualistic property rights – are bound to disrupt the match between the macro environment and the micro institutions detailed above. On the macro side, such reforms tend to reduce workers’ income and threaten their job security, thereby undermining egalitarian income distribution and mass consumption. On the micro side, such reforms threaten the loyalty or long-term commitment of major stake-holders (again, workers in particular) to the firm, thus undermining the scope for collective learning.

The 1995-97 nationwide downsizing drive in state industry is especially crucial in this regard. Initiated by the state leadership with an objective of transforming large and medium

where P and Q are the level of labour productivity and value-added, respectively. It is submitted that the coefficient c indicates the long-term relationship between P and Q . The term $(\ln P_{t-1} - c \ln Q_{t-1})$ therefore represents deviation from this relationship in a particular period, and b indicates the capability of flexibly adjusting to correct the deviation in the short term. The analysis follows a two-step approach: first regressing $\ln P_{t-1}$ on $\ln Q_{t-1}$ to obtain c , and then regressing $\Delta \ln P_t$ on the residuals of the above together with a and $\Delta \ln Q_t$ to obtain b . The results of the analysis for Chinese industrial SOEs, for the period 1978-2004, are:

$$\Delta \ln P_t = -0.006 - 0.016 (\ln P_{t-1} - 1.158 \ln Q_{t-1}) + 1.303 \Delta \ln Q_t \quad \text{Adjusted-R}^2 = 0.581$$

(-0.236) (14.808)*** (5.836)***

And for non-SOEs:

$$\Delta \ln P_t = -0.001 - 0.167 (\ln P_{t-1} - 0.786 \ln Q_{t-1}) + 0.739 \Delta \ln Q_t \quad \text{Adjusted-R}^2 = 0.628$$

(-1.613)* (45.864)*** (5.093)***

where *** and * indicate 1% and 10% levels of significance, respectively. It can be seen that, both for SOEs and non-SOEs, there does exist a long-term relationship between the level of productivity and output. And the value of coefficient c , which indicates this relationship, is much higher for SOEs (1.158) than for non-SOEs (0.786). Meanwhile, the value of coefficient b , which indicates the short-term flexibility for adjustment, is statistically significant for non-SOEs (0.167) but not for SOEs (0.016). From these results, it can be inferred that SOEs are more capable of generating productivity growth via dynamic increasing returns in the context of expanding macro demand, whereas non-SOEs are more capable of flexibly adjusting to cope with demand stagnation or fluctuations in the short term.

SOEs into modern corporations and small SOEs into shareholding cooperatives, the drive was seized upon by many local governments to simply sell off state assets while unilaterally defecting on the state's obligation for the job security of workers (and passing the liabilities of the sold enterprises onto state banks and ultimately to the central government). The crux of the matter is that, in the context of the demand-stagnant 1990s, SOEs had difficulty in utilising the relative efficiency attributes of their rigidity-infused, long-term-oriented institutions to generate dynamic increasing returns. They were thus ill-equipped for competing with the more market-oriented non-SOEs, as well as transnational corporations which began to enter China in massive scales from the early 1990s. The downsizing drive launched by local governments, in the form of mass lay-off, further worsened the situation.

Consequently, unemployment surged, consumption expansion slowed down further and investment growth also stagnated. Together with the worsening external environment caused by the East Asian crisis, all these plunged China into a state of deflation at the macro level, and worsening financial performance of industrial enterprises at the micro level, in the closing years of the century. It was only with a significant policy reversal, where the state leadership shifted from the stance of pushing forward the drive of marketisation to forcefully implement a range of market-supplanting policies – Keynesian-type fiscal stimuli, welfare-state measures, policies to revitalise SOEs and state banks, and a cautious approach to reforming the regime of external transactions (particularly to shelve the target of liberalising the country's capital account) – that economic growth was sustained in the crisis-prone period of 1998-2000.²⁶

The policy reversal in 1998-2000 did not result in the resumption of the previous pattern of economic transformation, however. What has emerged is a new pattern that exhibits strong resemblance to the canonical East Asian model of economic institutions and growth.

²⁶ Raymond W.K. Lau, 'The 15th Congress of the Chinese Communist Party: milestone in China's privatization' (*Capital and Class*, 1999, no.68, pp.51-87) provides a detailed analysis of the 1995-97 enterprise downsizing and privatisation drive. Dic Lo, ('China after East Asian developmentalism?') analyses the significance of the policy reversal in 1998-2000.

At one level, the path of industrialisation characterised by capital deepening has become firmly established, with the pace of capital deepening tending to accelerate. This is largely due to the fact that consumption expansion has continued to be sluggish, and its leading position has been taken over by investment. Hence the characteristic of ‘producing machines for producing machines’. Meanwhile, at another level, consistent with capital deepening and economic growth based on increasing returns is the rapid expansion of large-scale enterprises: their value-added share in Chinese industry as a whole increased from 27% in 1998 to 36% in 2002. This is somewhat ironical, as it occurred in a period when, on the world scale and particularly from the orthodox establishment, there was widespread criticism on the East Asian model of capital-deepening industrialisation carried out by large-scale industrial conglomerates – the model dismissively termed as ‘crony capitalism’.

This new pattern of economic transformation is clearly different from that of the first half of the reform era. There is no trace of existing an appropriate match between egalitarian income distribution and a systemic feature of enterprises being accountable to major stakeholders. True that, along with capital deepening and the indicated policy reversal, there has witnessed a phenomenal revival of the state sector. The value-added share of SOEs in Chinese industry increased from 33% in 1998 to 35% in 2002 and further to 37% in 2004, amid the rebound of their profit rate to once again surpass the industrial average. Yet, in an institutional sense, this revival has been more than outweighed by the massive decrease in the employment share of SOEs in Chinese industry: it decreased from 38% in 1998 to 21% in 2004. And this reflects the broader trend of shrinking employment share of the public sector in the Chinese society as a whole. As can be seen from Table 5, of the total of urban employment, the combined share of state-owned and collectively-owned units decreased from 76% in 1995 to 29% in 2004. In the rural areas, the employment share of the collective township-village enterprises remained basically unchanged during this period, in contrast to the persistent increase in the first half of the reform era. Surely, a society where the main part of labour employment is with the private sector is very remote from socialist pursuit.

[Table 5]

6. Speculation over the Future Prospects

In the discussion so far, we have left untouched a dimension that is conceivably of enormous importance in explaining the actual experience of China's economic transformation: namely, politics. Ultimately, the inquiry into the role of politics comes down to answering the following question: if the pattern of economic transformation in the first half of the reform era has proved to be very successful in underpinning the sustained rapid economic growth, why has it been progressively abandoned from the early 1990s onwards? In particular, why did the Chinese state unfailingly pursue the policies of marketisation? An adequate answer to these questions would require analysing such fundamental issues as the changing social formation and class relations – defined, to be rigorous, in the Marxian sense in relation to the 'economic' matters discussed in this article – in China, as well as the changing relationship between China ('socialism in one country') and the capitalist world system. These issues are really too big to be dealt with in the article.

Nevertheless, it might still be possible and useful to attempt a less deep-going answer to the indicated questions by looking at the 'agents', rather than 'structures', in China's social formation. Recall that what have most fundamentally undermined the depicted pattern of economic transformation are the 1995-97 enterprise downsizing or privatisation drive, together with the process of financial liberalisation in 1993-95. From these developments, it could be posited that, to an extent, the Chinese state authorities have been captured by the newly emerged financial interests in the economy. By extension, it can be said that the power relations in the Chinese society has been to some extent dominated by agents of the accumulating speculative capital. Yet, the fact that the Chinese state leadership turned to adopt the wide range of market-supplanting policies in the 1998-2000 period suggests that the indicated capture and dominance are far from absolute or unconstrained.

More generally, the character of the new pattern of economic transformation that has emerged since the early 1990s and has become firmly established towards the end of the

century implies that the Chinese state, while lessening its socialist commitments, has turned to strengthening developmental concerns (to retain control over the ‘commanding heights’ of the economy and thereby to direct the path of overall development, in line with the canonical East Asian model) rather than to embracing the free market doctrines *in toto*. Entering the new century, there are signs that the new leadership have even attempted to reinstate the importance of socialist concerns in the actual process of economic transformation – as is especially evident in the slogan of constructing a ‘harmonious society’ and policies associated with this slogan. All these suggest that, in the face of the deadly threat to late development caused by financial expansion across the globe, Chinese political economy on the whole is unlikely to be subdued by the logic of speculative financial capital, domestic or international. In line with the East Asian model of development, China is likely to stick to the logic of production rather than that of exchange (let alone that of speculation). Globalisation, then, will continue to meet its match in the ‘paradox’ that is China.

Table 1. China's Economic Growth in International Comparison

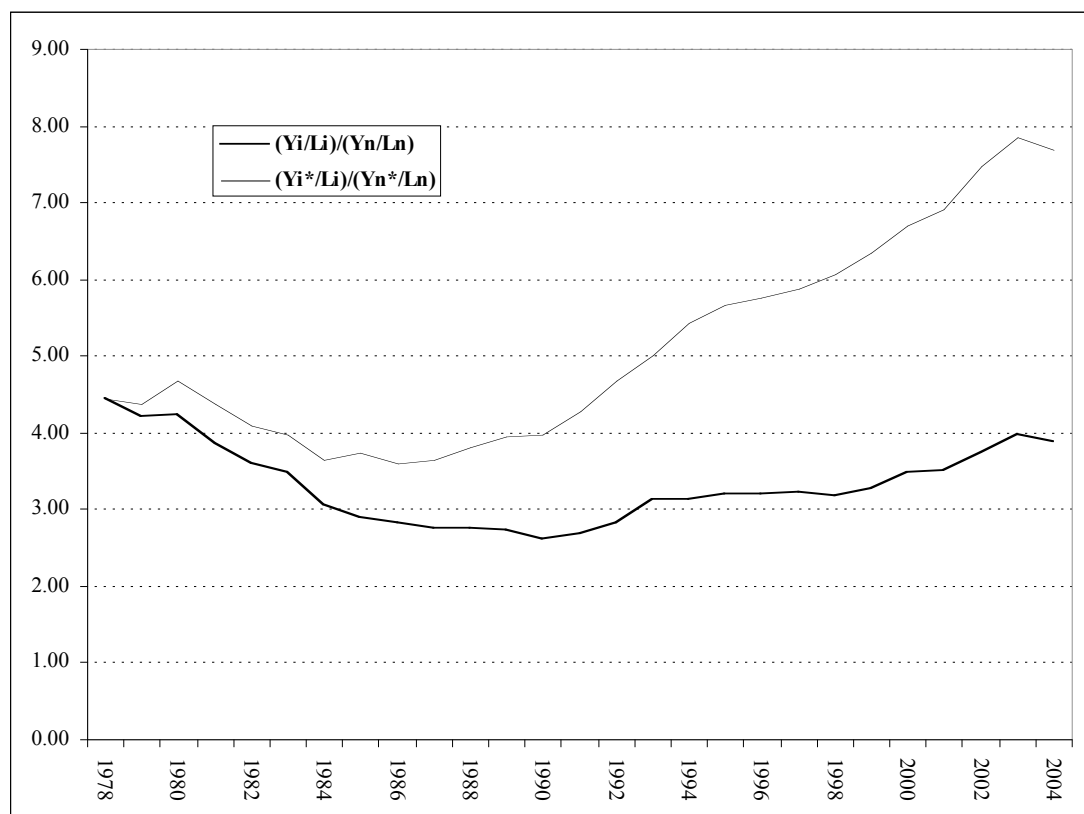
	1960-70	1970-80	1980-90	1990-2000	2001	2002	2003	2004
China	2.9	3.7	8.8	9.3	6.8	7.6	8.7	8.9
India	1.1	2.3	3.6	4.2	3.5	2.6	7.1	5.5
South Korea	6.0	8.4	7.7	4.7	3.1	6.3	2.5	4.2
Brazil	2.6	6.5	0.7	1.3	0.0	0.7	-0.7	4.0
USSR/Russia	4.0	4.7	1.3	-4.7	5.6	5.2	7.8	7.6
Low-income economies (excluding China and India)	2.0	1.8	2.2	1.2	2.6	2.4	5.4	4.5
Middle-income economies	3.5	2.1	1.2	2.2	1.6	2.3	4.2	6.1
Low- and middle-income economies			1.3	1.8	1.5	2.0	4.1	5.6
East Asia and Pacific			5.9	5.7	5.1	6.3	7.3	7.7
Europe and Central Asia			1.2	-1.7	2.0	5.3	5.8	7.0
Latin America and Caribbean			-0.3	1.7	-1.3	-2.3	0.5	4.6
Middle East and North Africa			-1.1	0.7	0.8	0.8	3.4	3.4
South Asia			3.4	3.7	2.8	2.7	6.1	5.1
Sub-Saharan Africa			-1.3	-0.1	0.9	1.1	2.0	2.4
High-income economies			2.7	2.2	0.4	0.8	1.7	2.8
Sources: World Bank, <i>World Development Report</i> and <i>World Development Indicators</i> , various years.								
Note: Figures are average annual real growth rate of per capita GDP (%).								

Table 2. China's Level of Industrialisation in International Comparison

	Share of industrial value-added in GDP (%)			Share of manufactures in total exports (%)	Share of high-tech products in total manufacturing exports (%)	
	1980	2000	2003	2001	2000	2003
China	49	50	52	89	19	27
India	24	27	27	77	5	5
South Korea	40	36	35	91	35	32
Brazil	44	28	19	54	19	12
USSR/Russia	54	38	34	22	14	19
Low-income economies (excluding China and India)	32	27	27	52	4	4
Middle-income economies	41	36	...	61	18	20
Low- and middle-income economies	...	36	35	...	17	19
East Asia and Pacific	42	48	49	80	31	33
Europe and Central Asia	...	33	31	56	10	12
Latin America and Caribbean	40	29	27	49	15	14
Middle East and North Africa	53	35	37	14	2	3
South Asia	24	26	26	78	4	4
Sub-Saharan Africa	39	30	31	33	4	...
High-income economies	37	28	...	82	25	18

Sources: World Bank, *World Development Report* and *World Development Indicators*, various years.

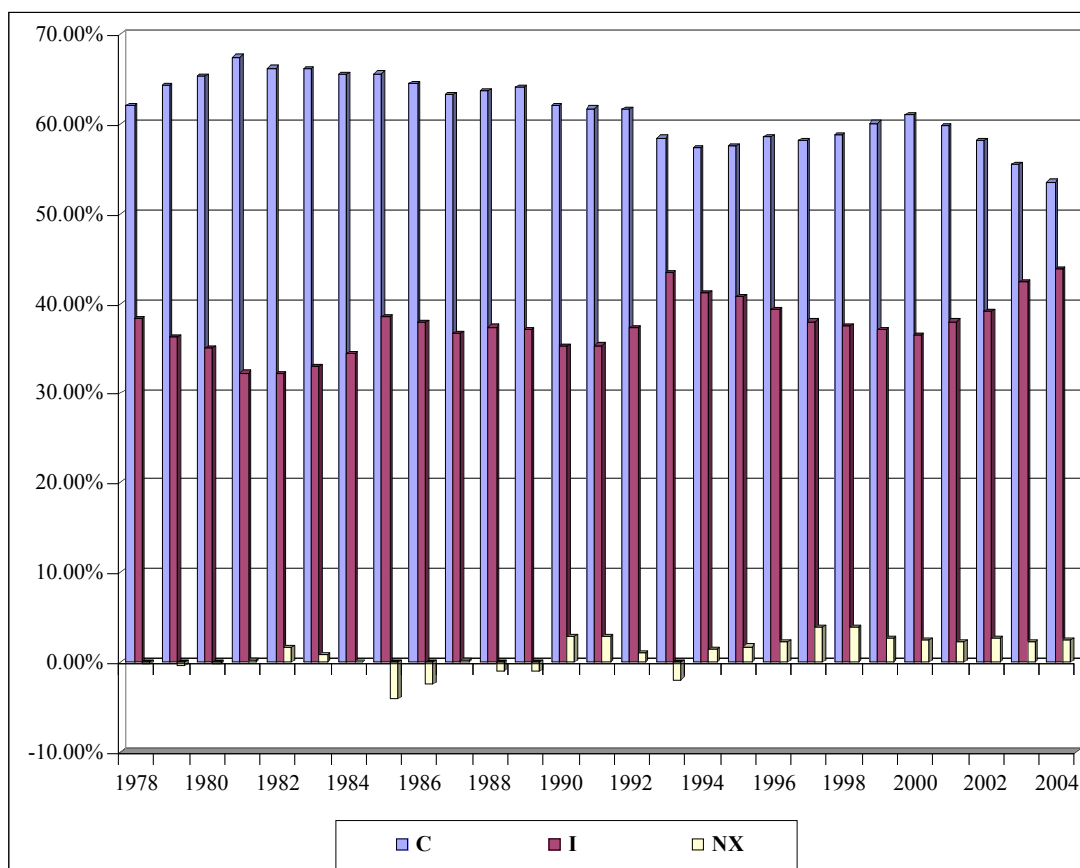
Figure 1. Relative Labour Productivity of Industry



Notes: Y = GDP and its components at current prices, with *denoting data at 1978 constant prices. L = total labour employment. The subscripts i and n denotes the secondary sector (i.e., industry plus construction) and the rest of the Chinese economy, respectively.

Sources: China State Statistical Bureau, *China Statistical Yearbook*, various issues.

Figure 2. Composition of GDP by Expenditures



Sources: China State Statistical Bureau, *China Statistical Yearbook*, various issues.

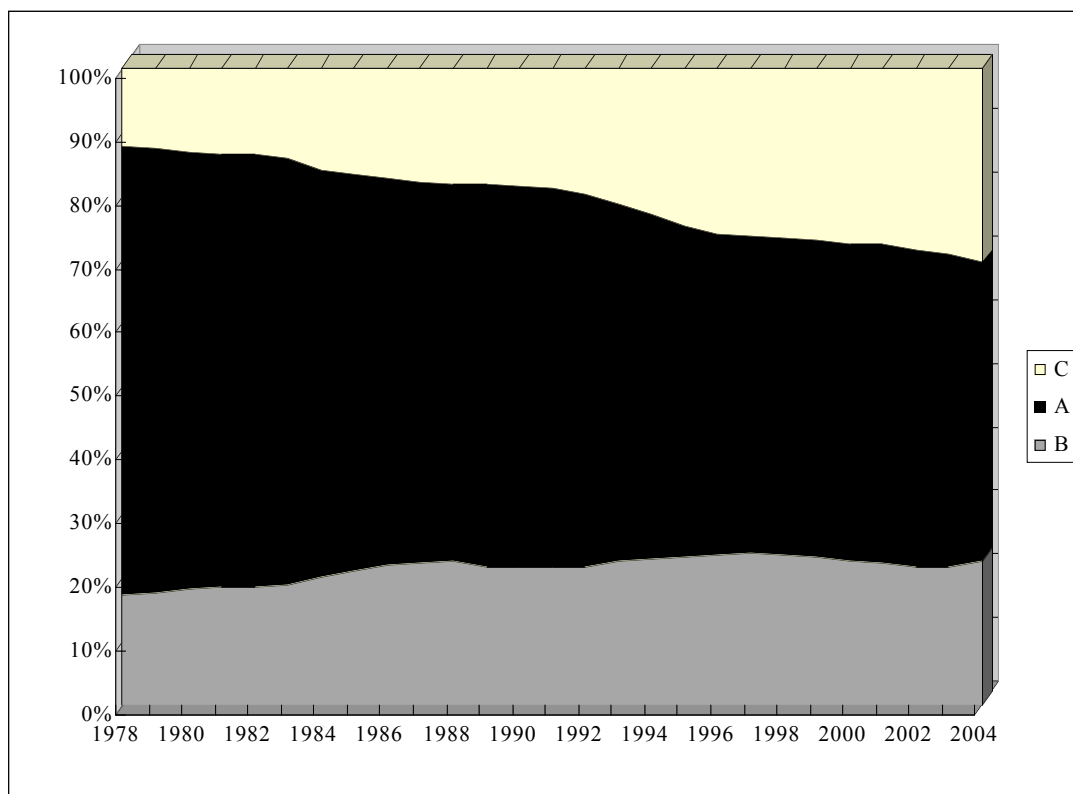
Table 3. Relative Performance of Industries in Guangdong and Shanghai-Jiangsu

	1991	2004	change
Relative labour productivity			
Guangdong	1.576	0.969	-0.607
Shanghai-Jiangsu	1.179	1.275	0.096
Relative total factor productivity			
Guangdong	1.417	1.100	-0.317
Shanghai-Jiangsu	1.220	1.242	0.022

Sources: *Zhongguo Tongji Nianjian* [China Statistical Yearbook], various issues; *Zhongguo Gongye Jingji Tongji Nianjian* [China Industrial Economics Statistical Yearbook], various issues.

Notes: Figures are labour productivity and total factor productivity (TFP) levels relative to Chinese industry as a whole. TFP is calculated as $TFP = Q/[(L^{0.6})(K^{0.4})]$, where Q is net value of industrial output or industrial value-added, L is number of workers, and K is value of fixed asset net of depreciation.

Figure 3. Sector Shares of Labour Employment



Notes: A = Secondary Sector, B = Primary Sector, C = Tertiary Sector.

Sources: China State Statistical Bureau, *China Statistical Yearbook*, various issues.

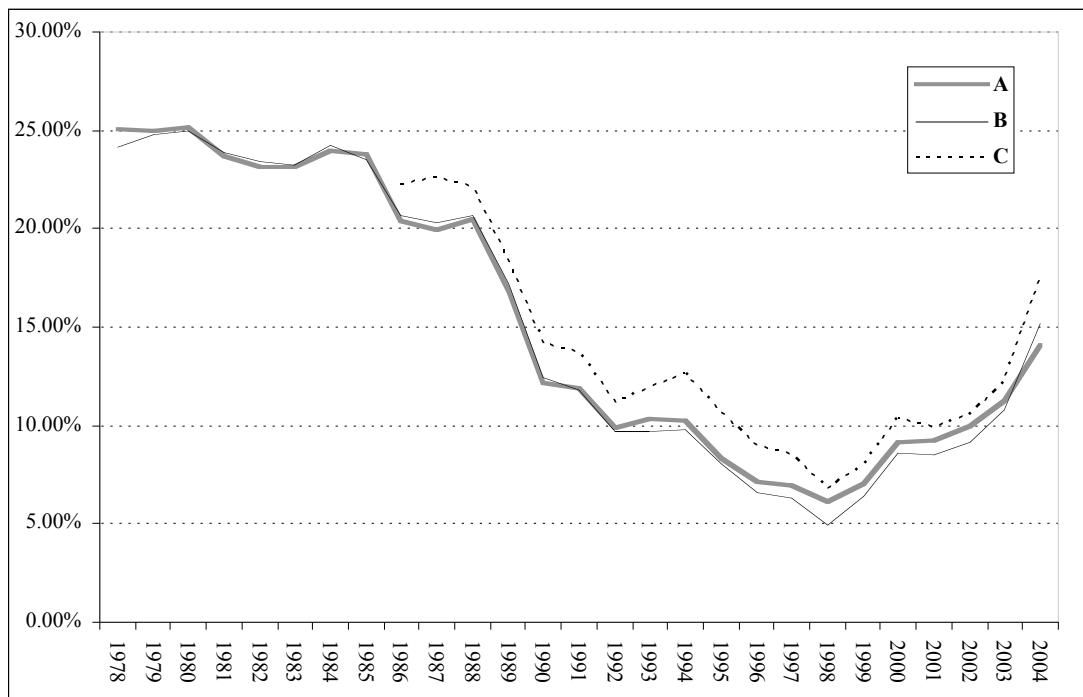
Table 4. Structural Change in Chinese Industry

	(a) 1980	(b) 1991	(c) 2002	(b)-(a)	(c)-(b)	(c)-(a)
Light Industry – using farm products	27.62	28.79	24.61	1.17	-4.19	-3.01
Light Industry – using non-farm products	12.54	14.41	12.83	1.87	-1.58	0.29
Textile, Clothing and Leather Industry	14.95	11.51	8.40	-3.44	-3.10	-6.54
Heavy Industry – Extraction	11.00	9.40	9.87	-1.60	0.47	-1.13
Heavy Industry – Materials	24.42	21.79	25.13	-2.63	3.35	0.71
Heavy Industry – Manufacturing	24.40	25.61	27.57	1.21	1.95	3.16
Mechanical & Electronics Industry	22.56	24.37	28.27	1.81	3.90	5.71
Electronics Industry	1.64	3.11	7.64	1.47	4.53	6.00

Sources: China State Statistical Bureau, *China Statistical Yearbook* and *China Industrial Economics Statistical Yearbook*, various issues.

Notes: Figures are percentage shares of net industrial output for 1980 and 1991 and of industrial value-added for 2002 in the formal sector of Chinese industry, defined as all ‘township-and-above independently accounting industrial enterprises’ for 1980 and 1991 and ‘all state-owned industrial enterprises plus non-state-owned above-designated-scale (of five million yuan in sales revenue) industrial enterprises’ for 2002.

Figure 4. Pre-tax Profit Rates of Chinese Industrial Enterprises



Notes: A = All industrial enterprises (i.e., township-and-above independently accounting industrial enterprises for 1997 and before, and all state-owned plus above-scale non-state-owned industrial enterprises from 1998). B = state-owned industrial enterprises (including state-controlled industrial enterprises from 1996). C = large-scale industrial enterprises (data before and after 2003 are not fully comparable because of changes in statistical coverage).

Sources: China State Statistical Bureau, *China Statistical Yearbook* and *China Statistical Abstract*, various issues.

Table 5. Labour Employment (10,000 persons)

	1980	1985	1990	1995	2000	2004
Urban total	10525	12808	17041	19040	23151	26476
State units	8019	8990	10346	11261	8102	6710
	(76%)	(70%)	(61%)	(59%)	(35%)	(25%)
Collective units	2425	3324	3549	3147	1499	897
	(23%)	(26%)	(21%)	(17%)	(6%)	(3%)
Rural total	31836	37065	47708	49025	48934	48724
TVEs	3000	6979	9265	12862	12820	13866
	(9%)	(19%)	(19%)	(26%)	(26%)	(28%)

Sources: China State Statistical Bureau, *China Statistical Yearbook*, various issues.

Notes: Figures in parentheses are percentage shares in the relevant sub-totals..