

# The FDI-Income Growth Nexus: a review of the Chinese experience

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## **Abstract**

*Amongst many economists, China serves as the foremost example of the benefits that developing countries can derive from being open to foreign direct investment (FDI). Since the early 1990s, China has, by a large margin, received more FDI than any other developing country. It has also experienced the world's fastest rates of income growth. Moreover, those provinces within China that have hosted the bulk of FDI have grown at relatively faster rates. However, a literature has now emerged that makes it possible to better assess the relationship between FDI and income growth beyond these stylised facts. A review of this literature leads to the conclusion that China's FDI-income growth nexus is in need of considerable qualification. The paper then attempts to reconcile the perception that FDI has been an important driver of income growth on the one hand with the limited evidence to that effect on the other. By way of conclusion, policy implications consequent to the review of literature are drawn.*

**JEL classifications** – F21, P52

**Keyword:** China, foreign direct investment, income growth, productivity, growth accounting.

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## **Introduction**

Amongst many economists, China serves as the foremost example of the benefits that can result from being open to foreign direct investment (FDI). IMF economists, Tseng and Zebregs (2002), assert that FDI has been “a driving force” behind China’s exceptional income growth performance since 1979 and they strive to garner lessons for other developing countries from China’s experience. In a recent review article on the comparative development of China and India, *The Economist* (2005) cited the latter’s relatively less successful track record in attracting FDI as being one of the reasons why it has so far been unable to achieve “Chinese levels of growth”. China’s high speed growth began in the wake of policy shifts in the late 1970s that saw the market being accorded a more prominent role in resource allocation. One of the most dramatic policy reforms, at least from the perspective of outsiders, was the Open Door Policy. Amongst other things, this led to the establishment of Special Economic Zones (SEZs) that served to lure foreign capital and management expertise into China by offering tax breaks, factor input concessions and simplified business regulations. Over time, the pre-eminence of SEZs as hosts of foreign capital fell as more and more cities were opened up to FDI. Since the early 1990s, China has, by a large margin, attracted more FDI than any other developing country. At the same time, it has experienced the world’s fastest rates of income growth. Furthermore, a feature of the FDI in China is that the 12 coastal provinces host nearly 90 per cent of the total. The rest is shared amongst the 19 inland provinces. Over the period 1980-2000, the average annual rate of income growth in the coastal provinces was two per cent percentage points higher than in the inland provinces. In light of these stylised facts, it is understandable why the perception of FDI being a driver of income growth in China has been strongly held by many.

However, a literature has now emerged that makes it possible to better assess the relationship between FDI and income growth beyond these stylised facts. A rigorous assessment of the role played by FDI is important for policy making in China, as well as in other countries that are seeking to learn from the Chinese experience. For example, a serious challenge facing policy makers within China is the widening income gap between coastal and inland provinces. If FDI is indeed a driver of income growth, then a case could be made to use incentives to lure a greater proportion of FDI into the inland provinces. In terms of economic growth theory, FDI can contribute to income growth via either enlarging the domestic capital stock or raising total factor productivity growth (TFP), or both. Section 2 of this paper considers the strength of the empirical evidence in support of these propositions found in recent growth accounting studies. These studies have been conducted using both national and provincial level data. This review finds little to support the assertion that FDI has been a leading driver of China's income growth. The latest econometric studies show that once other determinants of income growth have been controlled for, the contribution of FDI is much smaller than other factors. Section 3 puts forward several explanations to help reconcile the perception that FDI has been a driver of China's income growth on the one hand with the limited evidence to that effect on the other. The paper concludes by drawing policy implications consequent to the review of literature.

## **2. Insights from Growth Accounting Studies**

Growth accounting studies conducted at the national level show that China's rapid income growth is mostly accounted for by extremely high rates of capital

accumulation. In the latest such study, World Bank economists Kuijs and Wang (2005) found that during 1993-2004, capital accumulation could explain 62 per cent of income growth, compared with the 30 per cent contribution by TFP growth. Farrell, et al (2006) also showed that China's incremental capital-output ratio has been rising over time, which suggests that the preponderance of capital accumulation has only been increasing. Therefore, in considering the specific role played by FDI, an obvious starting point is to assess the contribution it has made to China's capital accumulation.

Krugman (1993), using standard neoclassical economic growth models, raised an important point regarding the degree of impact that foreign capital inflows are expected to have on income growth via capital accumulation. For a typical developing country, capital intensity, as measured by the share of GDP paid to capital owners, is about one third and the ratio of the capital stock to output is about three. If a country could attract a net inflow of foreign investment equal to five per cent of GDP, which is large by international standards, the growth rate of the domestic capital stock would increase by 1.67 percentage points and the income growth rate by one third of that, or 0.56 percentage points. In short, according to neoclassical growth models, it can be expected that large net capital inflows will increase income growth rates but the degree of impact will be limited. This is particularly the case when the possibility is allowed for that net inflows might be spent on consumption and that few developing countries have been able to sustain net inflows of the above magnitude in the past. Previous studies have placed China's capital-output ratio at around four and its capital intensity around 0.6 (e.g., Chow and Li, 2002). According to official data (see Table 1), FDI as a proportion of GDP averaged 2.6 per cent over the period 1980-2004, or 7.2 per cent of gross fixed capital accumulation. FDI of this magnitude would be

expected to increase the growth rate of the capital stock by 0.65 percentage points and the income growth rate by 0.36 percentage points. This figure hardly represents a driver of income growth, let alone a leading one, when annual income growth rates since 1979 have been in the vicinity of 10 per cent.

**Table 1. Foreign Direct Investment in China, 1980-2004**

	FDI (% of GDP)	FDI (% of Gross Fixed Capital Formation)
1980-2004	2.6	7.2
1980-1989	0.5	1.6
1990-1999	3.9	11.4
2000-2004	3.8	9.5

Source – United National Conference on Trade and Development (UNCTAD).

Moreover, the figure of 0.65 percentage points almost certainly overstates the effect of FDI on capital accumulation as official data do not discount round-tripping domestic capital from claimed FDI. It is well-known that a sizeable component of China's FDI is actually of mainland origin: it has been moved abroad through unofficial channels only to return later under the guise of FDI in order to take advantage of the preferential policies extended to FDI such as lower profit tax rates. Most round-tripping capital is routed via Hong Kong back to coastal provinces such as Guangdong. In the most detailed study of this phenomenon to date, Xiao (2004) concluded that round-tripping capital likely accounts for between 30-50 per cent of China's total FDI inflows. As a result, the ratio of FDI to GDP is more accurately placed at around 1.5 per cent of GDP, which would expectedly increase the growth rate of the capital stock by 0.38 percentage points and the income growth rate by just 0.23 percentage points. It is clear that FDI makes little direct contribution to capital accumulation, although it is possible that it may do so indirectly by raising the

marginal revenue product of capital for all investors, including domestic ones. This point will be returned to later.

It is also worth noting that the data in Table 1 is a gross rather than a net measure of capital flows. Since economic reforms began, China has never recorded large current account deficits in need of foreign financing. In fact, while the dollar value of FDI increased dramatically during the 1990s, China's current account was consistently in surplus; that is, in net terms, China has been a capital exporter. Thus, openness to international capital flows has made no net positive contribution to the rate of capital accumulation in China.

Since the distribution of FDI is highly uneven between coastal and inland provinces, it is also worthwhile to consider the effect of FDI using provincial level data. Table 2 shows the scale of FDI as a proportion of regional GDP, averaged over the years 2001-2003. According to official data, FDI averaged five per cent of GDP in the coastal provinces compared with one per cent in the inland provinces. If the round-tripping component of 30-50 per cent is excluded, the true figure in the coastal provinces, which are commonly considered to be magnets for FDI, is only around three per cent of GDP. Thus, on both national and provincial levels, the direct contribution of FDI to capital accumulation has been relatively unimportant.

**Table 2. Foreign Direct Investment in Chinese Provinces, average 2001-2003**

Coastal provinces		Inland provinces	
	FDI (% GDP)		FDI (% GDP)
Beijing	4.8	Anhui	0.8
Fujian	6.2	Chongqing	1.0
Guangdong	7.3	Gansu	0.4
Guangxi	1.4	Guizhou	0.3
Hainan	6.5	Heilongjiang	0.7
Hebei	1.1	Henan	0.6
Jiangsu	7.0	Hubei	2.3
Liaoning	4.5	Hunan	1.8
Shandong	3.6	Inner Mongolia	0.6
Shanghai	7.0	Jiangxi	3.3
Tianjin	7.1	Jilin	1.0
Zhejiang	3.5	Ningxia	0.5
		Qinghai	0.9
		Shaanxi	1.4
		Shanxi	0.9
		Sichuan	0.9
		Tibet	n/a
		Yunnan	0.3
		Xinjiang	0.1
<i>Average</i>	<i>5.0</i>	<i>Average</i>	<i>1.0</i>

Source – China State Statistical Bureau

Even if the data indicate that FDI has not been a particularly significant source of capital accumulation, it may still have contributed prominently to income growth via impacting upon technological progress, or total factor productivity (TFP) growth. The theory of FDI as being a potential spur for technological progress is well established (see Görg and Greenaway, 2004). Graham and Wada (2001) pointed out that given the spatial concentration of FDI in China, if FDI has been an important factor affecting TFP growth, then it would be expected that certain provinces would have recorded higher rates of TFP growth than others. For example, TFP growth in Guangdong province should have accelerated relative to other provinces in the early 1980s as this was the first province in China to receive substantial FDI flows. During 1979-1984, Guangdong received 66 per cent of the nation's total FDI (Kueh, 1992).

Similarly, TFP growth should have been higher in the coastal provinces throughout the reform period. However, growth accounting studies based on provincial level data fail to confirm such expectations. Ezaki and Sun (1999) was the first such study. They found that during 1981-1985, the contribution of TFP growth to Guangdong's income growth was actually negative. The fact that it had the highest rate of income growth amongst all provinces during this period was due to extremely high rates of capital accumulation. Furthermore, over the entire period they analysed, 1981-1995, TFP growth contributed less to income growth in the coastal provinces (25 per cent) than it did in the central provinces (44 per cent) and the western provinces (36 per cent). Again, the more rapid income growth in coastal provinces was a result of faster rates of capital accumulation. Another growth accounting study conducted by Miyamoto and Liu (2005) considered the period 1981-2000 and concluded that TFP growth accounted for 40 per cent of income growth in the coastal provinces compared with the 45 per cent and 38 per cent for the central and western provinces respectively. Qian and Smyth (2006) augmented the production function used in the above two studies with a measure of the human capital stock. Covering the period 1990-2000, they found that the contribution of TFP to income growth in coastal provinces was 19 per cent, compared with 24 per cent in inland provinces.

Cheung and Lin (2004) is the only study we are aware of that examines the technological spillover effects that might be associated with FDI at a provincial level, although others have been examined spillovers at lower administrative levels such as in SEZs (e.g., Liu, 2002), and at the industry level (e.g., Buckley, et al., 2002; Wei and Liu, 2006). Since the purpose of this review is to assess the claim that FDI has been driving income growth at aggregate levels, Cheung and Lin's study is most



relevant. Covering the period 1995-2000, they found a positive and statistically significant relationship between FDI and the number of patent applications of various types, which is used as a proxy for technological innovations. There are two important qualifiers however. Firstly, the effect associated with FDI is found to be much smaller than that associated with the number of science and technical personal, which is used as a proxy for domestic technology generating capacity. The study found that that a one per cent increase in the number of science and technical personal will lead to a 0.34 to 0.56 per cent increase in total patent applications; a one per cent increase in FDI, on the contrary, will lead to a 0.04 to 0.14 per cent increase in total patents only. Secondly, when total patents are broken down into their different types, FDI was found to have its greatest impact on minor innovations. Its impact on major innovations is small in magnitude and not always statistically significant. In contrast, the number of science and technical personal had its greatest impact on major innovations and is consistently large and statistically significant. In short, the study showed that, as far as technological spillovers are concerned, domestic sources are far more important than FDI.

The lack of obvious evidence for a strong association between FDI and technological progress is perhaps not surprising for several reasons. Firstly, the scale of FDI has not been large as a percentage of GDP or gross fixed capital accumulation. Secondly, as Kamath (1990) observed, most of China's accumulated FDI has come from Hong Kong and Taiwan, which have historically been manufacturing centres rather than technology hubs. It is instructive that when Buckley, et al. (2002) and Wei and Liu (2006) examined the spillover effects associated with FDI using industry level data it was found that only FDI from non-overseas Chinese countries (i.e., all those

excluding Hong Kong, Macao and Taiwan) was positively related to productivity in domestic firms.

Thirdly, the dubious state of intellectual property right (IPR) enforcement in China, combined with the country's large endowment of cheap, unskilled labour, has seen FDI flowing predominantly into low-tech sectors such as textiles and apparel, electronics assembly and real estate development. As these sectors have relatively low technological contents, cross-country evidence has shown that FDI flowing into them tends to be insensitive to the strength of IPR enforcement and is more dependent upon input costs and market opportunities (Maskus, 2005). Recently China's growing importance as an exporter of high-tech goods has received much attention. China is now the world's number one exporter of information technology (IT) products (*IHT*, 2005). Joint ventures (JVs) with giant MNCs such as Hewlett-Packard (HP), AST, IBM, Unisys and Digital are headline catching. According to Rosen (2003), what is often missed, however, is that China primarily contributes a cost saving, labour-intensive assembly service for these foreign technology companies. More than 90 per cent of China's IT exports are produced by foreign-invested enterprises (FIEs) and many of the key inputs in terms of embodied technology and value-added, such as computer chips, continue to be imported.

Fourthly, again related to the strength of IPR enforcement, an increasing proportion of FDI has been entering China in the form of a wholly foreign-owned enterprise (WFOE). In the early 1980s, WFOEs were officially discouraged in favour of JVs. This policy was designed to promote technology transfer but the end result was that it blunted the investment incentives of foreign firms. In the second half of the 1980s

FIEs were given more autonomy with respect to the ownership form in which they entered the market. IPR enforcement remained lax however, and the outcome was predictable: while the volume of FDI increased, more foreign firms entered in the form of a WFOE. During the 1980s, WFOEs accounted for 9.7 per cent of the contracted value of FDI, and it increased to 34.9 per cent during the 1990s (OECD, 2000).

Finally, the absence of a strong relationship between FDI and technological spillovers is common in an international context. In a review of the international evidence on FDI's spillover effects upon domestic firms, Görg and Greenaway (2004) found that while economic theory can identify a range of channels through which spillovers might occur, the actual evidence for positive spillovers is "at best mixed". As the authors pointed out, this finding can be attributed to the fact that it is in the interests of the foreign firms to take measures to limit the extent of spillovers, such as investing only in low-tech sectors or undertaking investment in the form of a WFOE.

One recent growth accounting study that does support a strong link between FDI and income growth in China is Whalley and Xin (2006). A methodological contribution of this paper is that whereas other studies use an estimate of the total capital stock for a single production function, it disaggregates the economy and its capital stock into two sectors, an FIE sector and a non-FIE sector. Their analysis leads to the conclusion that over the period 1996-2004, the FIE sector contributed, on average, 33 per cent of China's real GDP growth. The major caveat underlying this result is that by and large official data relating to inputs and outputs is only available for the aggregate economy. Thus, much of the data relating to the two sectors is estimated with the aid

of simplifying assumptions. For example, the capital stock in the FIE sector is calculated as accumulated FDI net of depreciation and it is assumed that this foreign supplied capital is the only non-labour input into the FIE sector. Therefore, domestic capital contributed through JVs, for example, is assumed to be zero. Yet it was not until the late 1990s that WFOEs overtook JVs as the dominant form in which foreign capital entered China and JVs continue to account for around 25 per cent of all FDI. Some of the estimated data are of obvious concern. For example, of the nine years covered by the analysis, the growth rate of output in the FIE sector is estimated to be at its highest during 1997 and 1998, which were the years of the Asian financial crisis. The descriptive statistics reported in the paper, which are based on official data, meanwhile show that by 1998 FDI moving into China had stagnated and export growth from FIE's had fallen by more than one half. Some of the results are also difficult to reconcile with those from previous growth accounting studies using aggregate data. For example, the contribution of capital accumulation to income growth in both sectors is markedly higher. Even in the FIE sector where TFP is found to play a more prominent role, the contribution of capital accumulation is 69.5 per cent compared with 18.1 per cent for TFP. That is, while the results suggest that FDI has been a driver of income growth at the aggregate level, it is concluded that the channel through which this has taken place is the contribution that FDI has made to capital accumulation. How this could be reconciled with the fact that FDI only accounts for a fraction of gross fixed capital accumulation (see Table 1) is not clear.

### **3. Reconciling Perceptions with Reality**

The preceding discussion presents something of a paradox. On the one hand, there is a common perception that FDI has been a driver of China's income growth. On the

other hand, in the literature that seeks to account for this income growth, there is limited evidence to support FDI playing such a leading role. What follows is an attempt to identify some of the factors that might be contributing to the divergence between perceptions and reality.

Firstly, perceptions are often based on stylised facts such as the positive correlation between FDI and income growth at national and provincial levels. The problem is that stylised facts reflect the combined effect of all determinants of income growth, not just FDI. While the coastal provinces have attracted the bulk of FDI, they have also acquired a disproportionate share of the nation's stock of other income-generating factors such as infrastructure (e.g., Démurger, 2001). The latest econometric evidence shows that once other relevant variables such as human capital and infrastructure are accounted for, and simultaneity bias is addressed (see below), the impact of FDI becomes much smaller. Yao (2006) analysed the period 1978-2000 using provincial level data and found that FDI is only marginally significant as a determinant of GDP and that a one per cent increase in FDI is associated with just a 0.006 per cent increase in GDP, which was the smallest impact amongst a set of explanatory variables that included domestic capital, domestic labour, human capital, exports and infrastructure. Yao's results suggest that FDI's largest impact may have been through exports. A one per cent increase in exports is associated with a 0.111 per cent increase in GDP, and FIEs now account for around 60 per cent of China's total exports. This impact should not be exaggerated however, since whatever technological progress exports have engendered, the growth accounting studies reviewed earlier suggests that it has not been sufficiently large to raise TFP growth rates in the coastal provinces, from where most of China's exports originate, above the national average. This is not surprising

given that the FIEs that have led China's export drive have principally been engaged in export processing that sees high value-added components being imported (Sung, 2000). Another possibility is that by showing how export markets could be tapped, FDI might have indirectly contributed to the higher rates of capital accumulation that have been observed in these provinces. This possibility will be returned to later.

Secondly, as Berthélemy and Démurger (2000) pointed out, some of the earlier econometric studies that pointed to a leading role for FDI were confounded by methodological deficiencies such as a failure to account for endogeneity problems. For example, FDI may be a determinant of provincial income per capita or labour productivity, but it is equally likely that FDI will tend to locate in the fastest growing provinces. Yao (2006) found that while FDI only had a small impact on GDP, a one per cent increase in GDP on the other hand was associated with a 0.817 per cent increase in FDI. Without accounting for such simultaneity bias the impact of FDI will be over-estimated. Zhang and Zhang (2003) sought to ameliorate the endogeneity problem by examining the impact of past investment on labour productivity. The logic is that even if higher labour productivity growth will attract more FDI, it can only affect the size of FDI in the future, but not in the past. They focused on the roles of foreign and domestic investment in explaining provincial differences in labour productivity over the period 1986-1998. They found that both domestic and foreign capital stocks displayed a positive and statistically significant relationship with labour productivity. The difference is, however, that a one per cent increase in the foreign capital stock is associated with a 0.04 per cent increase in labour productivity, while a one per cent increase in the domestic capital stock is associated with a much bigger,

0.63 per cent increase. The basic findings were reconfirmed by another study, Biggeri (2003).

Thirdly, another problem affecting econometric studies is that FDI might be correlated with, or be a proxy for more fundamental drivers of income growth that go unaccounted for. For example, in the evaluation of Yusuf (1994), the most important policy shift to have spurred China's income growth during the 1980s was the decentralization of decision-making authority from the central government to the provinces. This decentralization impacted on income growth through numerous channels, including the opportunity it afforded the more reform-savvy provincial governments to liberalise their economies at a faster rate than the national average. Coastal provinces such as Guangdong were not only the first to be given greater latitude by Beijing in their dealings with foreign trade and FDI, they were also the first to actively promote the development of a domestic non-state sector through tacitly recognizing private property rights, developing market institutions and reducing the burden of government red tape on business activities (Qian and Stiglitz, 1996; Li, 1997). Fan, et al. (2001) reported on the different extents to which China's provinces had marketized by the late 1990s. Since such institutional changes are hard to quantify, not least of all because local governments might interpret the extent of power delegation differently, they do not tend to find their way into empirical studies. On the other hand, the result of liberalization such as rapid income growth, exports and FDI are very visible, especially to outsiders. Consequently, FDI can easily but incorrectly be cited as a leading income growth driver itself. It was noted earlier that Guangdong's rapid income growth in the early 1980s was explainable by high rates of capital accumulation rather than TFP growth. Given that during 1979-1984, FDI

accounted for only around 1.7 per cent of Guangdong's GDP, or 5.7 per cent of its gross capital formation, it not possible that FDI directly played a leading role in capital accumulation. However, it is possible that it might have done so indirectly. By demonstrating how overseas markets could be tapped, for example, FDI might have effectively raised the marginal revenue product of capital for all investors, including domestic ones. Doubtless this is true to some extent. However, given the small scale of FDI relative to Guangdong's GDP, an equally if not more persuasive explanation for high rates of capital accumulation is that the marginal revenue product of capital was improved by the broader business-friendly policies embarked upon by the provincial government.

Fourthly, the degree to which FDI affects income growth will depend upon the level of aggregation being considered. While FDI may not be a growth driver at national and provincial levels, it may well have been more important at lower levels such as at the city level or in SEZs, or in certain industries. Since the perspective of most observers is to see FDI impacting on income growth at lower levels of aggregation, it is easy though incorrect to generalize the same outcome at higher levels. There are several reasons why FDI would have a stronger impact at lower levels. First of all, a given volume of FDI will account for a larger proportion of output. Kueh (1992) observed that throughout the 1980s, Shenzhen SEZ was peerless as a host of FDI. Yet in 1987, its GDP was just one-tenth the size of Shanghai. Furthermore, FDI may spur concomitant domestic investment, such as in infrastructure. Chinese estimates from the early 1990s suggested that for each dollar of foreign investment, an average of RMB3 (equivalent to 63 cents at the then exchange rate) was spent, not including the Chinese capital contribution to JV



arrangements (Kueh, 1992). Thus, on a local level, the combined contribution of FDI and concomitant domestic investment to gross capital accumulation can be large. In 1990, FDI into Shenzhen totalled \$US2,436 million, or 34.68 per cent of total fixed asset investment. Using the above estimate as a guide, this level of FDI would be associated with concomitant domestic investment of  $2,436 \times 3 = \text{RMB}7,308$  million. Converting concomitant domestic investment at the then prevailing exchange rate of \$US1:RMB4.783, FDI and concomitant domestic investment would equal \$US2,436 million + \$US1,528 million = \$US3,964 million, or 55 per cent of total fixed investment. Agglomeration and networking effects are also likely to be more prominent at lower administrative levels due to transaction and information costs. Enright (2005) commented that, "Once the viability of producing a product in China has been shown, local and foreign companies dive into the fray, mobilizing capital and labour with breathtaking speed, often with strong support from local governments". In one stand out case cited by Enright, during an 18<sup>th</sup> month period, two-thirds of the world's notebook computer production, primarily by Taiwanese and Korean firms, relocated to the same locality in China, Suzhou. These local hot spots, however, do not appear sufficiently large to have had a marked effect on income growth rates at provincial and national levels. Wei and Liu (2006) report evidence supportive of this conclusion. They used industry level data to examine the spillover effects associated with FDI and also tested for the presence of spillovers both within and across regions. They found that while there were intra and inter-industry spillover effects within regions, there were no spillovers across regions. As the authors put it, "...positive productivity spillovers from FDI are fundamentally local rather than national".

Finally, the impact FDI has had on income growth may have changed over time. When the Open Door Policy was first adopted in 1979, the domestic economy was encumbered by a ubiquitous state sector, factors of production were used inefficiently and domestic output was of poor quality and not marketable overseas. In this context FDI demonstrated how under-utilised factors of production such as rural labour could be mobilized and the quality of manufacturing output could be raised to exportable standards in order to earn the foreign exchange needed for importing necessary capital goods. China was also extremely fortunate to have on its doorstep Hong Kong and Taiwan, which had already established themselves as manufacturing hubs capable of competing on the international stage. Facing rising labour costs at home they had the necessary incentive to transplant labour-intensive manufacturing to the mainland. Nowadays, the magnitude of the initial deficiencies in China's economy has substantially declined, as has China's reliance on FDI to address them. The manufacturing sector on the mainland now is unrecognizable compared with the one that existed in the late 1970s. A vibrant, domestic non-state sector has emerged that assists in mobilising surplus rural labour, exporting manufactured goods and earning foreign exchange. Furthermore, as a substantial amount of FDI has already flowed into certain manufacturing sectors, the contribution of further FDI into these sectors will only be marginal. Another foreign presence in the textile industry, for instance, would not exert a meaningful impact on TFP growth in that industry since textile firms in China have already attained international levels of competitiveness. Accordingly, extrapolating the past role played by FDI into the present makes its more contemporary impact on income growth easy to be overstated. One does need to be cautious on this point, however. What earlier FDI did was to provide a catalyst effect, which, in a short span of time, helped create some of the conditions that were

essential for high rates of income growth to become self-sustaining. In that sense, present high rates of income growth do owe something to FDI.

#### **4. Policy Implications**

The literature reviewed above suggests that at least at the national and provincial levels it would be inappropriate to label FDI as having been a leading driver of China's rapid income growth. Furthermore, the impact that FDI will have on future income growth will expectedly diminish for several reasons. Firstly, it will be a challenge for the scale of FDI to keep pace with the growth in national income and gross fixed capital formation. Indeed, FDI as a percentage of these variables has already fallen in the 2000s compared with the 1990s (see Table 1). Secondly, some areas of Chinese manufacturing have now reached the international technological frontier, or are fast approaching it. Thirdly, while FDI will continue to mobilise surplus rural labour and contribute to China's growing stockpile of foreign exchange reserves, the domestic non-state sector will increasingly perform this role. This is all not to say that the FDI-income growth nexus cannot be reinvigorated. As Enright (2005) observed, the manufactured goods in which China is internationally competitive are concentrated in a relatively limited number of labour-intensive consumer goods such as electronics, electrical equipment, home appliances, garments, textiles and footwear. In other manufacturing sectors, such as automobiles, it continues to lag. In the services sector, Chinese firms are even farther behind and could benefit greatly from more FDI. In banking, for example, it was only at the end of 2001 that HSBC became the first foreign bank given permission to acquire an equity stake in a domestic bank. Current regulations still limit foreign investment to a maximum of 25 per cent of the total equity in a Chinese bank and actually approved

shares by regulators are usually much smaller. By opening up non-manufacturing sectors, FDI might once again provide a catalyst effect on income growth but it could be on a smaller scale than at the start of the reform period when the entire economy was backward. It is also apposite to mention that the benefits of removing remaining restrictions on FDI will be muted as long as IPR enforcement remains weak.

At a provincial level within China, the review suggests that putting in place incentive structures to increase the share of total FDI going to the inland provinces would be a grossly insufficient policy response to address widening income disparities between provinces. Firstly, there is scarce evidence that FDI has been one of the leading income growth drivers at a provincial level. Secondly, to the extent that FDI impacts on income growth by playing a catalyst role, the provinces that liberalized to FDI first would have already captured many of the benefits. Of course, inland provinces would still benefit from removing restrictions that actively impede FDI. Yet importantly to note, in many cases these will be the same factors that impede domestic entrepreneurial activities such as excessive government red tape, poorly functioning market-supporting institutions, inadequate infrastructure and human capital availability.

Turning to the implications for other developing countries, the benefits that China has received from FDI, to a large extent, is a result of its close ties to Hong Kong and Taiwan and the backwardness of its economy on the eve of economic reforms. As a result, other countries that do not have similar initial conditions might find it hard to attract comparable volumes of FDI and may not reap the same benefits even if they mimic China's policies. As exemplified by its booming IT sector, Indian businesses

today are far more capable of, and familiar with, operating in global markets than were Chinese businesses in the late 1970s. In this respect, it is difficult to imagine that FDI would play the same catalyst role it did in China in the early 1980s. To be sure, many industries in India still lag the international best practice and the economy suffers from numerous other constraints such as inadequate infrastructure and a rigid labour market. Accordingly, India has much income growth potential left to exploit. However, what India needs most to unlock this potential is domestic deregulation, not FDI. A lesson other countries might reasonably draw from China's experience is the importance of mobilising domestic capital and creating an environment that is conducive for investment from all sources. The reason that China's national and provincial economies have been growing so quickly is because of extremely high rates of capital accumulation, which has been made possible by equally high rates of domestic savings. Over the period 1980-2004, the ratio of gross domestic savings to GDP in China was 37.3 per cent compared with 21.2 per cent in India. At the same time, however, other countries should also be aware of the limitations inherent in the present Chinese growth model, which, because of its reliance on capital accumulation and neglect of TFP growth and the natural environment, is of dubious sustainability.

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