

Participation in Global Production Networks for 'Make in India'

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India has a huge potential to emerge as a major hub for final assembly in several industries. However, it is important to resist the temptation of extending tariff protection for final goods assembly as it will have the detrimental effect of breeding inefficiencies. A level playing field should be created for different types of business entities – domestic, foreign and joint ventures. The domestic market for goods should be as contestable as is the export market for competing suppliers from around the world

RAPID EXPANSION of manufacturing sector has been a major objective of economic policy in India. Starting with the second five year plan in 1956 and culminated by the recent launching of 'Make in India' campaign, policy makers always stressed the need to expand India's manufacturing sector. A natural question is: why manufacturing? Historical evidence from different parts of the world demonstrates the indispensable role that industrialization plays in the economic development process of countries. The experience of East Asian countries, in particular, shows that export-led industrialization is crucial for the attainment of sustained employment generation and poverty reduction. In countries like India, expansion of labour-intensive manufacturing offers a huge potential for generating low-skilled employment.

Since the 1980s, there has been a turnaround in India's GDP growth performance. Yet, the process of structural change, in terms of transferring large pools of surplus labour from agriculture to non-agriculture, has been very slow. Agriculture accounted for, on an average, about 18.1 per cent

of India's GDP during 2011-13, but employed about 48.9 per cent of the total workforce in 2011 (Economic Survey, 2014-15). This over-concentration on agriculture is undesirable and explains why poverty still persists in India. The growth process in China and other East Asian countries followed the conventional pattern of shifting labour from agriculture to labour-intensive manufacturing. By contrast, India has been skipping the intermediate stage of industrialization and directly moving to the final stage of services led growth.

Growth and Structure of India's Manufacturing Sector: Some Anomalies

India's growth success has been driven by service producing industries, mostly those employing relatively skilled labour force. The average share of manufacturing value added in India's GDP remained low at 17.8 per cent during 2011-13 (Economic Survey, 2014-15). International comparisons suggest that the *actual* manufacturing share of GDP for India is lower than what is *predicted* while the opposite is the case for China (ADB, 2007)¹. The share of manufacturing in India's merchandise exports declined from 73.5 per cent in 1992 to 65 per cent in 2012. By contrast, in China in 2012, manufacturing accounted for

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32 per cent of GDP and 94 per cent of merchandise exports. Between 1992 and 2012, China's share in the world exports of manufactures steadily increased from about 2.5 per cent to a whopping 16.8 per cent while India's share increased much slowly from 0.6 per cent to 1.6 per cent.

Within the manufacturing sector, India tends to specialize in relatively skill and capital intensive activities (Kochaar et al, 2006, Economic Survey 2014-15). The fast growing exports from the country are either skilled labour intensive (such as drugs and pharmaceuticals and fine chemicals), or capital intensive (such as automobiles and parts). Between 1993 and 2010, the share of capital-intensive products more than doubled from about 25 per cent to nearly 54 per cent while the share of unskilled labour-intensive products halved from 30 per cent to 15 per cent (Veeramani, 2012). In contrast to the employment-intensive growth of China, India's manufacturing growth followed a relatively capital intensive path². Clearly, this is an anomaly given the fact that India's true comparative advantage lies in unskilled labour-intensive activities.

Growth of Global Production Networks (GPNs)

World-wide reduction in tariff barriers and technology-led decline in the costs of transportation and communication has made it possible to unbundle the production processes in several industries, with various stages occurring in different countries. Rapid growth of international fragmentation, notably since the 1980s, has led to a major change in the nature and pattern of world trade. Countries increasingly engage in trade by specializing in particular stages of good's production sequence or tasks rather than in final goods. Trade in parts and components (P&C) have grown much faster than trade in final goods as intermediate products cross national borders multiple times during the production process (see, for example, Feenstra 1998, Hummels et al

2001, Athukorala, 2012, Baldwin and Lopez-Gonzalez, 2013). The type of trade that result from interconnected production processes involving a sequential, vertical trading chain stretching across many countries, is described under various terminologies such as fragmentation trade, trade in middle products, task trade and vertical specialisation trade.

The concept of "global production network" (GPN) has been developed as a way to analyse the complex link between a lead or a key firm and its suppliers in different countries. Growth of global production networks implies that trade involves not only the exchange of end products but, increasingly, of P&C that go into making them. Each country specializes in a particular fragment of the production process based on its comparative advantage, which in turn, is determined by factor intensity of fragments and differences in factor prices across countries.

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In certain industries, such as electronics and automobiles, technology makes it possible to sub-divide the production process into discrete stages. In such industries, the fragmentation of production process into smaller and more specialised components allows firms to locate parts of production in countries where intensively used resources are available at lower costs. This geographic splintering of production gives rise to fragmentation based trade. Labour abundant countries ("factory economies") like China tend

to specialize in low skilled labour-intensive activities involved in the production of a final good, while the capital and skill-intensive activities are being carried out in countries where those factors are abundant ("headquarter economies"). Thus, international firms might retain skill and knowledge-intensive stages of production (such as R& D and marketing) in the high-income headquarters (e.g., the U.S.A, E.U and Japan) but locate all or parts of their production in a low wage country (e.g., China and Vietnam).

Although the development of production networks is widespread, their growth in East Asia, and China, has been particularly impressive. A number of empirical studies show that a high level of intra - and extra-regional trade, based on fragmentation and vertical specialization, has been a key factor behind the export success of East Asian countries (e.g., Athukorala and Yamashita, 2006, Athukorala, 2012). China's export promotion policies since the 1990s relied heavily on a strategy of integrating its domestic industries with the global production networks. Though not as dynamic as the ones in East Asia, strong production networks also exist in Europe (for e.g., between Germany and Hungary/Czechoslovakia) and North America (for e.g. within NAFTA).

A manifestation of China's participation in global production networks is the growing importance of machinery items in its export basket. In 2010, machinery and transport equipments contributed to about 52 per cent of Chinese exports and it accounted for about 20 per cent of the world exports in this product category. The fast growth of China's machinery exports has been driven by its high degree of integration with the regional and global production networks (Athukorala, 2012).

In particular, based on imported parts and components, China has emerged as a global hub for electrical and electronic goods assembly.

Typically, China imports the parts and components from other parts of East Asia and exports the finished goods to the United States and Europe. Since this strategy involves processing or assembly of imported parts and components, the net domestic value-added *per unit* of the exported good is generally not very high. However, since the scale of operations is usually very large, the *total* domestic value addition from these activities is considerably high contributing to employment generation for a large number of migrant workers in China.

India's Participation in GPNs

In contrast, due to its idiosyncratic specialization in relatively capital and skill intensive product lines, India has been locked out of the vertically integrated global and regional supply chains in manufacturing industries. The experience of East Asia suggests that one of the important reasons for the lacklustre performance of India's manufacturing sector is the lack of its participation in GPNs.

Krueger (2010, pp 424) notes that "...India has not succeeded in attracting foreign investors to use India as an export platform in many of the unskilled-labour intensive industries that have been attracted to east and southeast Asia". Athukorala (2014) notes that India has so far failed fitting into global production networks in electronics and electrical goods, which have been the prime movers of export dynamism in China and other high-performing East Asian countries. A number of large MNEs in electronics and electrical goods industries have set up production bases in India, but they are mainly involved in production for the domestic market. However, in the case of automobile industry, studies suggest a steady growth in India's integration with global production networks (Tewari, Veeramani and Singh, 2015; Athukorala, 2014). A number of leading automobile companies have established assembly plants in India and some of them

have begun to use India as an export base within their global production networks. Since the early 2000s, India's exports of assembled cars (completely built units) have increased at a much faster rate than automobile parts (Athukorala, 2014). Overall, though India's exports of assembled vehicles recorded some growth, the country remains as a minor player in fragmentation based trade, particularly in electronics and electrical goods.

What Explains India's Lacklustre Participation in GPNs?

Because its policies discourage against labour-intensive industrial activities, India lags behind other fast-growing Asian countries in

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integrating domestic manufacturing with the global vertical production chain. India's import substitution policy regime created a bias in favour of capital- and skill-intensive manufacturing, and the reforms since 1991 have not been comprehensive enough to remove this bias. Though the post-1991 policy changes have gone a long way towards product market liberalization by easing entry barriers, factor markets (labour and land) are still plagued by severe distortions and policy induced rigidities. In particular, India's archaic labour laws create severe exit barriers and hence discourage large firms from choosing labour-intensive activities and technologies (Krueger 2010; Kochhar et al. 2006; Panagariya 2007). Government interventions in labour markets have

had the unintended consequence of creating a bias in the incentive structure against labour-intensive manufacturing.

Inward FDI has been instrumental in integrating China's manufacturing with the global vertical production chains. The bulk of the FDI flows to China's manufacturing sector has been vertical (export promoting) in nature, which represents international fragmentation of the production process by multinationals. By contrast, inward FDI into India is primarily horizontal (market seeking) rather than vertical in nature. What explains the fact that India has been attracting horizontal rather than vertical FDI while the opposite has been the case for China? First, there existed a powerful incentive for multinationals to undertake tariff jumping horizontal investment as Indian tariff rates, despite the reduction since 1991, remained relatively high until 2007. Higher tariff rates would have made India a relatively undesirable destination for vertical investments.

Second, vertical specialization has been discouraged in India also on account of restrictive labour laws, inadequate infrastructure, a burdensome regulatory environment, an inefficient land acquisition process, and poor trade facilitation. These issues are reflected in India's poor ranking among the countries in the region - in particular among the dynamic export-oriented economies in East Asia, in terms of various indicators of ease of doing business. The World Bank's annual 'Doing Business 2015' ranked India 142nd out of 189 countries in ease of doing business while China's rank stood much better at 90th. Faced with power shortages, capital and skill-intensive industries such as automobiles and pharmaceuticals might be in a position to rely on the high-cost internal sources of power. This option, however, is not affordable to firms in the labour-intensive segments that generally operate with low margins.

Way Forward

China's image as a low-cost location for manufacturing is rapidly changing due to labour shortages and increases in wages and in response, China is shifting its specialization from basic to relatively more sophisticated manufacturing. With the increasing wage costs, Chinese firms in the labour-intensive industries are increasingly under pressure and have started looking for other low cost locations such as Vietnam and Indonesia. An important question in this context, is: Can India become the next workshop of the world?

Recognizing the importance of a strong manufacturing sector for employment generation, the Prime Minister has recently launched "Make in India" campaign with an aim to boost India's manufacturing sector. It is important to situate these new initiatives in the context of growing global production networks in manufacturing industries. Greater integration of domestic industries with global production networks must form an essential part of the "Make in India" initiative. What is important is the creation of an environment that allows entrepreneurs to freely search and identify opportunities in the vertically integrated global supply chains of various industries. Based on imported parts and components, India has a huge potential to emerge as a major hub for final assembly in several industries. However, it is important to resist the temptation of extending tariff protection for final goods assembly as it will have the detrimental effect of breeding inefficiencies. A level playing field should be created for different types of business entities – domestic, foreign and joint ventures. The domestic market for goods should be as contestable as is the export market for competing suppliers from around the world.

A flexible labour market, with appropriate social safety nets, is a crucial

necessary condition for the growth of labour-intensive manufacturing in India. The recent amendments in labour laws in states such as Rajasthan and efforts to improve the ease of doing business are all moves in the right direction.

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Endnotes

1 Predicted shares are calculated from a cross-country regression of manufacturing shares on GDP per capita, GDP per capita squared, population and foreign trade to GDP ratio. For the year 2000, the predicted shares are about 20 per cent and 27 per cent respectively for India and China while the actual shares are 16 per cent for India and 35 per cent for China (ADB, 2007, pp 294).

2 That India's manufacturing growth followed a relatively capital-intensive path is evident from the much smaller growth rate of employment than capital stock and value added. During 1973–2003, registered manufacturing employment grew slowly (1.3 per cent per annum) while capital stock grew faster (7.3 per cent per annum) than manufacturing value added (6 per cent) (see Gupta et al, 2008). □

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