‘Hollowing-Out’ of India’s Manufacturing Sector
Role of International Trade

Rashmi Banga
United Nations Conference on Trade and Development

The declining share of the Indian manufacturing sector in GDP and total exports; declining employment elasticities, and rising imports provide sufficient evidence of the hollowing-out of the Indian manufacturing sector. Building strong domestic value chains within the economy is necessary to be able to ‘gainfully’ link into global value chains. Incentivising domestic firms to procure domestically in order to develop their domestic input industry can boost global competitiveness of many manufacturing industries.

Manufacturing has always been a sector of concern for India due to its sticky growth rates and persistently low contribution to total output and employment in the economy. The sector’s decadal average growth rates have remained less than 6 per cent right from 1950s to 1990s. While the sector experienced a slight rise in its average growth rate to 8 per cent in the decade of 2000,its performance since then has been worsening with its growth rates declining from 9.7 per cent in 2010-11 to 2.6 per cent in 2011-12 and 1.8 per cent in 2012-13[1] . In FY13, only 3.3 per cent of the country’s growth was generated by manufacturing sector.

Due to its slow growth, the sector has been unable to provide the much needed structural transformation of the economy. Its contribution to GDP has remained stuck between 14-16 per cent since 1980s and in 2012-13 it is still contributing 15 per cent of GDP. This appears to be extremely low when compared to other developing countries like China (34 per cent), Thailand (40 per cent) and Malaysia (24 per cent). The sector’s contribution to total employment in the period 2000-09 has been only around 12 per cent with its employment elasticity declining from 0.76 in the first half of 2000s to -0.31 in the second half.[2] The sector has also played a negligible role in labour productivity growth in India. In the decade of 2000, manufacturing in India contributed

[1] Central Statistical Organisation (CSO), also see Data Book for Deputy Chairman, Planning Commission; 3rd May, 2013

[2] NSSO 61st and 66th Round Survey (2009-10); Working Group on Twelfth Plan - Employment, Planning & Policy

only 6 per cent to total labour productivity growth as compared to 32 per cent in China and 68 per cent in Malaysia.[3]

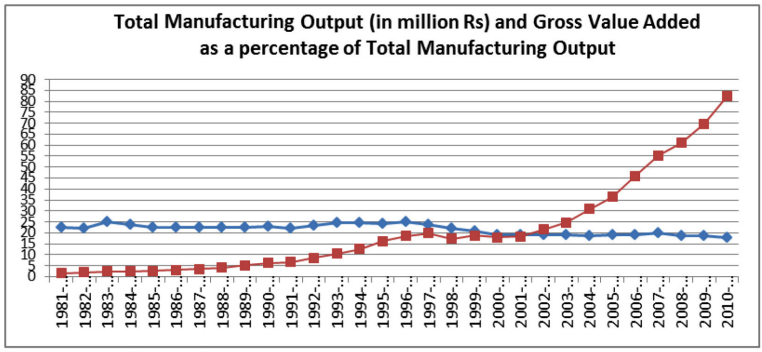
The dismal performance of manufacturing sector on all fronts raises some potent questions:

1. Is Indian manufacturing sector *hollowing-out?*
2. Are the growth challenges to manufacturing sector in India unique?
3. Are specific policies being formulated to target specific constraints to manufacturing sector's growth?
4. To what extent has international trade been responsible for *hollowing-out* of Indian manufacturing?
5. Have global value chains played a role in this *hollowing- out?*

Is India's Manufacturing Sector 'Hollowing-Out'?

Hollowing-out occurs when domestic value-addition represents a diminishing share of total output. Indian manufacturing sector has been experiencing a rising output but diminishing value- added in total output with the trend becoming more pronounced since mid-1990s. (Figure1). Value-added in total manufacturing output declined from around 25 per cent in mid-1990s to 18 per cent in 2010-11. The rise in manufacturing output with falling manufacturing value-added could be explained by rising resource intensity of manufacturing sector which would imply rising fuel consumption. However, fuel consumption has steadily declined as a proportion of manufacturing inputs, i.e., from an average 11 per cent in 1980s to 6 per cent in 2000s.

Figure 1: Manufacturing Output and Gross Value Added in Manufacturing



Source: *Annual Survey of Industries, 2010-11*

Not only did the real value-added growth declined for the aggregate manufacturing sector from an average annual growth of 11 per cent in 1990s to 9 per cent in 2000-08,

[3] Asian Productivity Databook, 2013, Asian Productivity Organisation

this decline was seen in a number of disaggregated manufacturing industries (Table 1). It is to be noted that the period considered is before the global economic slowdown.

Table 1: Average Annual Growth in Real Value Added in Organised Manufacturing Sector

	Average Annual Growth of real value-added in 1990s	Average Annual Growth in real value-added in 2000-2008
Furniture & other manufacturing n.e.c.	29.7	13.0
Electrical machinery and apparatus, n.e.c	15.8	12.3
Wearing apparel, dressing & dyeing of fur	15.5	9.0
Textiles products	12.8	8.0
Machinery and equipment n.e.c.	14.0	7.1
Non-metallic mineral products	9.5	7.1
Chemicals and chemical products	10.1	3.8
Basic metals	17.5	3.3
Radio, television and communication equipment	14.8	1.8
Tobacco & related products	7.7	-1.4
Rubber and plastic products	8.5	-2.0
Others	10.1	8.5
Total manufacturing	11.5	8.7

Note: Average annual growth rates of value added are calculated from Annual Survey of Industries. Double Deflation method is used. 2000s is 2000-01 to 2008-09.

The declining real value-added growth in manufacturing industries accompanied by declining share of the sector in GDP and total exports and falling employment elasticity strongly suggests that Indian manufacturing sector is hollowing-out. Falling value-added growth can hamper industrialisation process immensely in an economy. Even if manufacturing output grows and exports rise, unless domestic value-added rises, there will be no commensurating production-linked gains like employment generation, technology up gradation, skill development, etc. Declining value-added growth can lead to a stage where the industries will need to increase their imports of inputs; they will not add much value to their exports and slowly hollow-out.

Are Growth Challenges to Manufacturing in India Unique?

The manufacturing sector in India has some unique features which makes its challenges more daunting. There exists a large unorganised/informal manufacturing sector in India which contributes around 85 per cent of total employment. Organised manufacturing is able to provide employment to only 15 per cent of those employed in manufacturing, of which 51 per cent are 'informally' employed and do not enjoy job and social security (NSSO, 2009-10). Thus, 92 per cent of those employed in manufacturing sector are in

'informal' employment. Nevertheless, contribution of organised manufacturing sector to GDP with only 8 per cent of formal employment is 78 per cent.

Along with large 'in-formalisation' of manufacturing, there exists another dual structure within manufacturing. This is the existence of small and large firms with 'missing-middle' or medium-sized firms. According to ADB (2009) almost 84 per cent of total manufacturing employment in India is in micro and small enterprises with only 6 per cent employed in middle-sized firms (with 50-199 workers). In contrast, middle-sized firms employ 20 per cent in China, 20 per cent in Malaysia and 23 per cent in Thailand; while large firms employ 52 per cent in China, 53 per cent in Malaysia, 42 per cent in Thailand but only 10 per cent in India.

The existence of dual structures poses unique challenges. Some of the important characteristics of micro and small enterprises or those in informal sector include low access to technology, low labour productivity, limited access to finance and high vulnerability. This leads to higher disparity in labour productivity, wages and total factor productivity across manufacturing firms and across organised and unorganised manufacturing. Many have argued that existing labour regulations are largely responsible for firm size disparity in India. There are regulations which kick in after a threshold level in size is reached, for example firms employing more than 50-100 workers need to obtain state government permission to lay-off workers. Further, there are also regulations relating to work terms and conditions which are size-specific.

These dualisms with respect to 'formal' and 'informal' sector and 'missing-middle' along with limiting regulations pose unique challenges to the growth of manufacturing in India.

Key initiatives: The lacklustre growth of manufacturing sector in India has not been left unattended by the policymakers. In fact, many policies and plans have targeted growth in this sector, which include policies from high protection to modest liberalisation and rapid dismantling of protection along with reservations to a large number of manufacturing products for exclusive production for small scale industries.

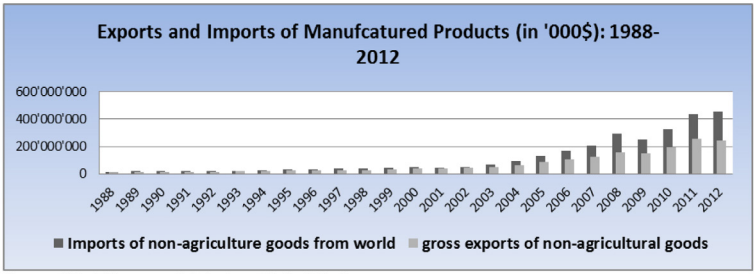
Some important policy initiatives to boost manufacturing growth were taken around mid-1980s; early 1990s and early 2000s. These include industrial de-licensing initiated in 1984-85; de-reservation of most of the items from small scale reservation in 1990s along with other reforms of 1990-91; steady tariff reductions and removal of quotas and restrictions on industrial products in 2000s; formulation of National Manufacturing Policy (NMP) in 2011; initiating Delhi Mumbai industrial corridor (DMIC) project; rapid policy reforms to promote foreign direct investment (FDI) and efforts to promote ease of doing business with projects like e-Biz.[4]

[4] See Economic Survey 2013 for details of these polices.

While there has always been a raging debate on the success of various reforms and policies, especially with respect to their impact on total factor productivity growth in manufacturing, the fact remains that the manufacturing sector has not been able to make any important contribution to the growth of the economy and has not been able to increase its share in GDP and total employment. In spite of India's rapid growth which has been accompanied by growth of per capita incomes, rise in domestic demand has not provided the much needed opportunity to increase industrial capacities and the sector is hollowing-out.

Rising competition in domestic and international markets: One of the probable reasons for this hollowing-out can be the intense competition that the sector is facing both in the domestic as well as external markets. Imports of manufactured products have increased much faster than their exports, especially post 2000. This has been the period of rapid growth of Indian economy with growing per capita incomes. Figure 2 depicts exports and imports of manufactured products (non-agricultural products) in India since 1988. Manufacturing sector seems to have 'missed the bus' and domestic demand has been increasingly catered by cheaper manufactured imports.Imports may have risen largely due to rapid increase in trade liberalisation and dismantling of protection to the sector during this period.

Figure 2: Exports and Imports of Manufacturing Products



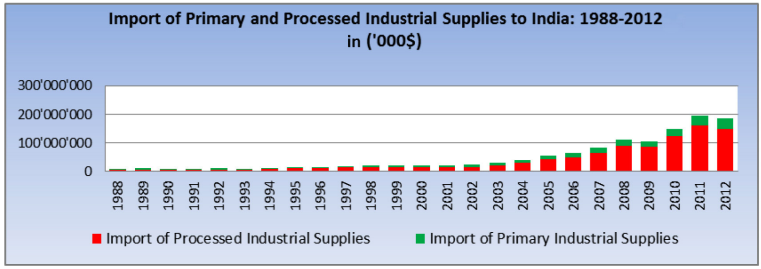
Source: World Integrated Solutions, United Nations

Chinese manufactured products seem to be more cost competitive as compared to Indian manufactured products. The share of China in India's imports of manufactured products rose steadily from 0.3 per cent in 1988 to 2.7 per cent in 2000 and then rose to 10.7 per cent in 2012, i.e., a rise of 588 per cent from the year 2000. The share of China in India's imports of consumer goods rose from 5.9 per cent in 2000 to 23.7 per cent in 2012. The evidence of surge in imports from China has been provided by DIPP (2012) which states: The indices of industrial production (IIP) for 268 items; import from all countries in these items (import index) and export index of these items have grown by 107.8 per cent, 1773.1 per cent, and 143.4 per cent respectively in 2010-11 over the

base of 2004-05, while Chinese index (imports from China) for same items has grown by 4618.4 per cent in 2010-11.

Not only finished manufactured products but gross imports of industrial supplies, both of primary as well as processed, also rose substantially in post 2002 period.The share of processed industrial supplies has increased much more rapidly than primary supplies. In 2012, processed industrial supplies comprised 80 per cent of total imports of industrial supplies. Figure 3 shows the rise in imports of industrial supplies and share of processed inputs over the period 1988-2012.

Figure 3: Import of Primary and Processed Industrial Supplies to India



Source: World Integrated Solutions, United Nations

International trade therefore seems to have provided tough competition to Indian manufacturing products both in the domestic market, especially from China, as well as in the external markets. Imports of both finished products as well as processed manufactured inputs have grown substantially. Exports have risen but at a much slower pace.

Increased imports of industrial supplies have led to increase in import-content of India's manufacturing exports, which increased rapidly from 10 per cent in 1995 to 25 per cent in 2009. Rising import-content in exports is many times celebrated and taken to be indicative of the extent to which an industry is linked to global value chains. However, to what extent this linkage is 'gainful' for the economy is often unassessed.

What is the Role played by Global Value Chains in 'Hollowing-Out'?

The emergence of global value chains (GVCs) has further complicated the 'trade-development debate' and has made it more difficult for developing countries to assess their gains from trade. GVCs emerged due to fragmentation of production processes across countries and continents and in the process have led to a faster rise in trade in intermediate products as compared to finished products. Higher exports can no longer be linked to higher production as imports of intermediate products which are used in exports also increase.

Nevertheless, 'linking to GVCs' has become the new development challenge for

policymakers. But linking to GVCs per se may not bring automatic gains. In fact, linking at lower end in GVCs by exporting raw materials has 'locked-in' many commodity exporting countries at the bottom and they continue exporting low-end and low-value added inputs with lower gains in terms of domestic value addition.[5] Some low income countries are 'locked-out' of GVCs, while many middle income countries are finding their trade figures rising with little rise in their domestic value-added growth. Further, studies have traced a 'smiley-curve' in GVCs which shows that the value captured by services in GVCs is much higher than that by manufacturing activities.[6] Countries contributing services like R&D, designing, branding, marketing, etc. are able to capture a much higher value in GVCs as compared to countries which provide inputs and manufacture the products.

To what extent are Indian manufacturing industries linked into GVCs and have gained is debatable as it depends on how 'gains' are estimated. To estimate a country's domestic value-added in exports, a new database has been released in 2013 by OECD-WTO, i.e., trade in value-added database (TiVA). This database covers 58 countries (including all OECD countries; BRICS countries; NICs1; NICs2, Cambodia, Brunei, Darussalam and 'rest of the world') and provides value added and trade data for five years- 1995, 2000, 2005, 2008 and 2009. Using harmonized input-output tables of these countries, the database provides domestic value-added that is exported and imported by a country. Although, the database has made it easier to analyze gains from trade with respect to domestic value-added generated by linking into GVCs, there is now a debate on the way to measure 'participation in GVCs'.

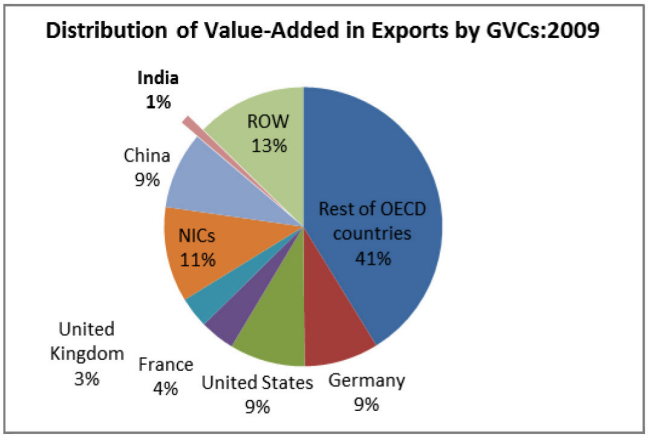
For a particular country, especially a developing country, linking into GVCs could either be through forward linkages (where the country provides inputs into exports of other countries) or through backward linkages (where the country imports intermediate products to be used in its exports). Using this sequential production process definition of participation in GVCs, the share of a country in total value-added created by trade in GVCs is estimated (Banga 2013).

Figure 4 shows the distribution of global value-added created by trade in GVCs in 2009. The share of OECD countries in total value-added created by trade in GVCs is found to be 67 per cent. Between countries, maximum participation in GVCs is of China (9 per cent), Germany (9 per cent) and US (9 per cent). All other developing countries together share less than 10 per cent of global value-added created by GVC participation. India's share in global value-added created by trade in GVCs is estimated to be around 1 per cent in 2009.

[5] See Gereffi (1994), Kaplinsky (2005) and Milberg and Winkler (2013)

[6] Gereffi and Korzeniewicz's (1994)

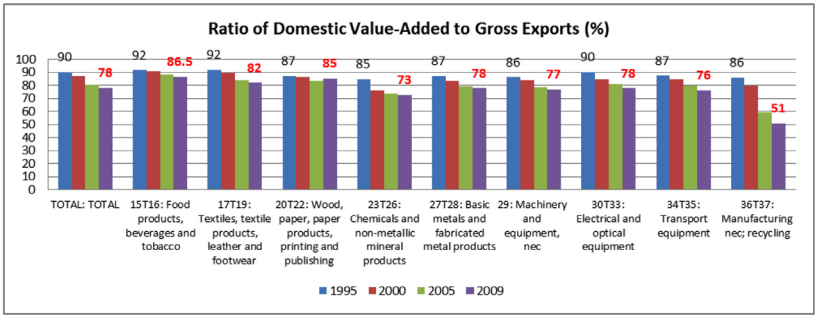
Figure 4: Share in Global Value-Added by Exports in GVCs



Source: Author's estimates from OECD Stat and OECD-WTO TIVA, 2013

Although, the share of India in global value-added created by GVCs is only 1 per cent, domestic value- added in exports of total manufacturing sector has experienced a steady decline from 90 per cent in 1995 to 80 per cent in 2005 and further to 78 per cent in 2009. This decline has been across the board in many manufacturing industries. Although almost all the industries experienced a rise in their exports in the period 1995-2009, there was a simultaneous decline in their value-added in exports. Traditional export-oriented industries like textiles and garments have also experienced a decline in domestic value-added in exports, which can have large adverse implications for the economy as these industries are not only labour intensive industries but employ mainly low-skill labour and largely women.

Figure 5: Domestic Value-Added as a Ratio of Gross Exports in Indian Industries: 10995-2009



Source: Author's estimates from OECD Stat and OECD-WTO TIVA, 2013.

The above analyses with respect to domestic value-added in exports as well as India's share in global value chains clearly points out that Indian manufacturing is not 'gainfully' linked to GVCs and is losing out on its value-added growth.

Is There a Way Out?

The declining share of the Indian manufacturing sector in GDP and total exports, declining employment elasticities, and rising imports provide sufficient evidence of hollowing-out of the Indian manufacturing sector. International trade seems to have played a key role in this process. This is posing daunting challenges for the policymakers. Many policies and initiatives have been taken to boost growth of output in the sector. However, these policies have fallen short of targeting declining domestic value-addition in manufacturing industries.

To increase value-added growth in manufacturing, it is necessary to strengthen backward and forward linkages of manufacturing industries between themselves as well as across sectors, including services sectors. Formalisation needs to be encouraged and existing dualist structures broken. While services sectors can substantially add to productivity growth of manufacturing, manufacturing can also add to growth of services by providing additional domestic demand for them. Thus, building strong domestic value chains within the economy is needed to be able to 'gainfully' link into global value chains. Incentivizing domestic firms to procure domestically in order to develop their domestic input industry can boost global competitiveness of many manufacturing industries.

In the race to link into GVCs, many industries are being opened to foreign direct investments (FDI) and import liberalisation is being pursued greedily. Opening up of retail sector can also be seen as an attempt to link into GVCs of foreign firms, who are expected to procure from domestic farmers and producers. However, a cautious approach is needed. China which is an epicenter of Asia for GVCs and has high participation in GVCs is now rethinking its policies and making efforts to increase its domestic value-addition. FDI should be used for catalyzing domestic investments, especially in manufacturing sector and for building industries which provide processed inputs to manufacturing.

How long can this hollowing-out continue? This issue needs urgent attention of the policymakers and India's industrial policy needs to be revamped not only to maximize the 'gains' from international trade and GVCs but also to face the dangers of not linking gainfully into GVCs.

References

Asian Development Bank (2009), *Enterprises in Asia: Fostering Dynamism in SMEs: Key Indicators for Asia and the Pacific.*

Banga, Rashmi (2013), *Measuring Value in Global Value Chains,* UNCTAD background papers, http://unctad.org/en/PublicationsLibrary/ecidc2013misc1_bp8.pdf

DIPP (2012), *Impact of the Surge in Chinese Import on Indian Manufacturing Sector*, Office of Economic Advisor, Department of Industrial Policy and Planning, Research Studies.

Gereffi, G and M. Korzeniewicz (eds.) (1994), *Commodity Chains and Global Capitalism,* London: Praeger.

Kaplinsky, R.(2005), *Globalization, Poverty and Inequality: Between a Rockand a Hard Place*, Cambridge: Policy Press

Milberg, W. and Winkler, D. (2013),*Outsourcing Economics: Global Value Chains in Capitalist Development.* New York: Cambridge University Press.

Author

Rashmi Banga is the senior economist of the United Nations Conference on Trade and Development (UNCTAD). Her expertise lies in the field of international economics, econometric modelling international trade and WTO issues, foreign direct investments in services industrial economics development economics productivity and profitability analysis. Email: rashmibanga@unctadindia.org