

# Creating Jobs in Manufacturing

**Bishwanath Goldar**

Institute of Economic Growth, Delhi

*For the 70-80 million youth who will enter the labour market in the next ten years, the creation of a large number of industrial jobs is important. For this, the stagnation in the sector over the last two years has to be reversed. But even if a high rate of growth of manufacturing does add to a large number of jobs, this may not fully meet the aspirations of the youth, since a substantial part of the industrial jobs may turn out to be rather low paying with limited or no benefits. There is econometric evidence to show that labour markets reforms will help in boosting the growth rate in manufacturing employment as well as lower the tendency towards casualisation.*

In the course of the next ten years, about 70 to 80 million youth will enter the Indian labour market with aspirations for a decent job and a good life. Decent jobs may, however, elude many of the youth since they would not have the requisite education and skills. It is on this point that the creation of industrial jobs assumes significance. As explained below, the creation of a large number of industrial jobs made possible by a rapid growth of the manufacturing sector (particularly organized manufacturing) supported further by a restructuring of the manufacturing sector towards more labour-intensive industries will enhance the prospects of the youth in getting suitable jobs.

The Indian economy is currently dominated by the services sector, and it is this sector which has grown relatively fast in last few decades. Employment in services, particularly in the organized component of services (hereafter, organised services), is demanding in terms of skills and education of workers. To present some data based on NSSO (National Sample Survey Organization) surveys, in 2009-10, about 80 per cent of the workers in the organised services had secondary education or above (an estimate based on unit records of 2009-10 employment-unemployment survey; see NSSO, 2011). On the other hand, only about 20 per cent of the working youth (age 15-24) and about 30 per cent of all youth (age 15-24) had an education level of secondary or above. Clearly, there is a mismatch.

One may argue that the extent of skill mismatch will get reduced over time as improvements take place in the educational profile of the youth. Indeed, between 1999-2000 and 2009-10, the proportion of youth with education level of secondary and above

increased by about 10 percentage points, an increase from 20 per cent in 1999-2000 to 30 per cent in 2009-10. Yet, the pace of improvement of the education-skill profile of the youth has been slow, and if the current trend continues, then among the youth that will enter the Indian labour market in the next ten years, only a minority will have the requisite education and skills to find jobs in organised services.

In contrast to the situation in organized services, organized manufacturing holds better potential for providing jobs to relatively less educated youth. According to NSSO data, in 2009-10, about 20 per cent of the workers in organized manufacturing had less than primary education (including illiterate) and another about 15 per cent had only primary education. Evidently, the manufacturing sector holds a much better potential for providing jobs to the less educated youth that will enter the job markets in the next ten years than the services sector.

Will manufacturing be able to create enough jobs for the youth? The situation does not seem very encouraging. Going by employment estimates based on NSSO data, between 2004-05 and 2009-10, there was an absolute decline in manufacturing employment. Taking a longer period 1999-2000 to 2011-12, the increase in employment in manufacturing was about 17.5 million, which comes to about 1.5 million per year. Of this increase in manufacturing employment, the organised manufacturing sector accounted for an increase in employment of about 5.2 million over the entire period 1999-2000 to 2011-12 or about 0.4 million per year. By contrast, each year about 7 to 8 million youth are expected to enter the job market in India in the next ten years. Evidently, the rate of job creation in manufacturing, particularly organized manufacturing, achieved in the past falls badly short of the job requirements of the youth that will enter job markets in the next ten years.

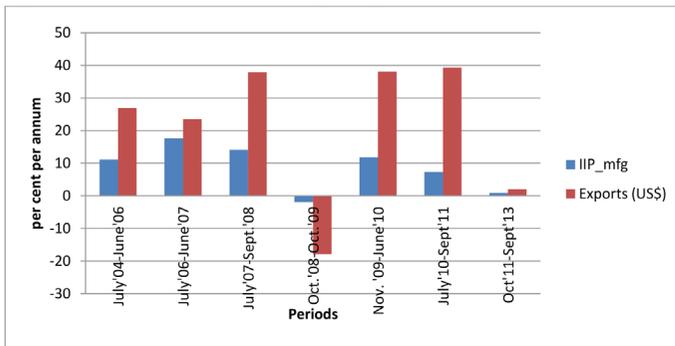
### **Manufacturing Output Growth and Employment Elasticity**

In the years 2004-05 through 2007-08, the manufacturing sector recorded a high rate of output growth. The average growth rate in the index number of industrial production (IIP) for manufacturing was about 10 per cent per annum in this period. The growth rate came down sharply in 2008-09, but revived again in 2009-10 and 2010-11. From October 2011 began a period of low or negative growth in manufacturing. The average year-on-year (Y-o-Y) growth rate in IIP-manufacturing in different months in the period October 2011 to September 2013 was 0.9 per cent per annum (see Figure 1). This is very low in relation to the average growth rate in output achieved by Indian manufacturing in the 2000s (about eight per cent per annum).

The near stagnation in manufacturing production in the recent period coincided with a sharp fall in the growth rate in exports (see Figure 1). An earlier episode of poor manufacturing growth performance occurred during October 2008 to October 2009 when the average growth rate in IIP-manufacturing was negative. Interestingly, in this

period, the growth rate in exports was negative too. Evidently, there is some basis to argue that the sharp fall in the growth rate in India's export in the recent times is one of the main factors responsible for the slowdown in growth in manufacturing output in India. The fall in the growth of India's exports is in turn attributable to the global economic slowdown. This is indicated by Table 1, which shows the growth rates in India's exports and in global exports in different years during 2002 to 2012. The correlation coefficient between the growth rate in India's export and that in world exports during 2002-12 is high positive at 0.94. Thus, arguably, the global economic slowdown is one of the key factors responsible for the sluggishness in manufacturing output growth in the recent period. However, it would be wrong to assume that the current growth problems of Indian manufacturing are mostly or entirely attributable to the global economic slowdown. Rather, there are serious domestic constraints on industrial growth arising from adverse investment climate particularly deficiencies of the policy environment and inadequacies of infrastructure. The significance of this observation is that even if the global conditions do not improve much in the near future which cannot be ruled out, a major boost to the growth of manufacturing should be possible through domestic policy initiatives.

**Figure1: Growth Rates in IIP - Manufacturing and Exports**



*Note:* Computed from IIP-manufacturing data taken from the website of Central Statistical Office (Government of India) and data on India's exports expressed in US\$ taken from the website of the Reserve Bank of India (RBI).

The above discussion on output growth in manufacturing is relevant to the key issue under discussion namely, creation of employment opportunities in manufacturing because unless the manufacturing sector grows fast it would not be possible to create a large number of jobs for the new entrants in the labour market. As mentioned above, the average growth rate in manufacturing output (indicated by IIP-manufacturing) in the last 23 months was less than one per cent per annum. This is no doubt abnormal and one would expect the growth rate in manufacturing output to go up in the near future. Here, the crucial question is, how high will the growth rate in manufacturing output be in the coming ten years.

**Table 1: Growth Rate in Exports (in US\$), World and India**

Year	Growth Rate in Exports	
	World	India
2002	4.9	13.6
2003	16.8	19.7
2004	21.5	30.0
2005	13.9	30.0
2006	15.5	22.3
2007	15.6	23.3
2008	15.2	29.7
2009	-22.3	-15.4
2010	21.8	37.3
2011	19.5	34.6
2012	0.75	-3.1

*Source:* Growth rates for the years 2002 to 2011 have been computed from exports data taken from *International Trade Statistics*, 2012, World Trade Organization. Growth rate in world exports for 2012 has been computed from data on world exports for 2011 and 2012 given in *World Economic Outlook*, October 2013, International Monetary Fund. Growth rate in India's exports in 2012 has been computed from month-wise data on exports taken from RBI sources.

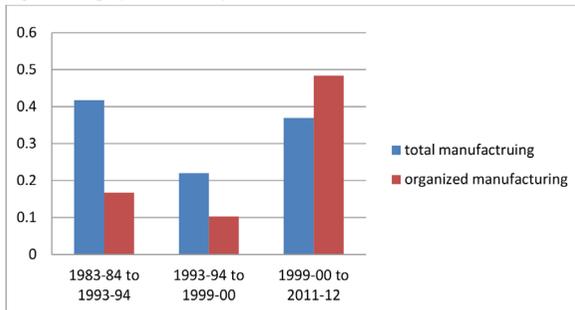
India's new *National Manufacturing Policy* aims at raising the share of manufacturing in India's GDP from about 15 per cent now to about 25 per cent in about ten years. If it is assumed that the average growth rate of the aggregate Indian GDP in the next ten years will be somewhere in range of eight to ten per cent per annum (on the ground that the target growth rate in GDP in the 12th Five Year Plan is 9 to 9.5 per cent per year), then for attaining the aim the new National Manufacturing Policy the growth rate of manufacturing should be somewhere in the range of 13 to 15 per cent per annum (Goldar, 2013). It does not seem realistic to assume that Indian manufacturing will actually attain an average growth rate of output in the range of 13 to 15 per cent per year in the next ten years. Rather, the growth rate is expected to be lower. According to the World Economic Outlook of the International Monetary Fund (October 2013), the growth rate in India's real GDP will be 3.8 per cent in 2013 (up from 3.2 per cent in 2012), 5.1 per cent in 2014 which will increase to 6.7 per cent in 2018. One may assume some acceleration in GDP growth rate beyond 2018. The average growth rate in GDP in the next ten year should accordingly be about seven per cent per annum with a margin of say plus-minus one per cent percentage points. It seems reasonable to assume that the average growth rate in manufacturing output in the next ten years will be somewhere in the range of 8 to ten per cent per annum, though a slightly higher growth rate cannot be ruled out, to allow for the possibility that the *National Manufacturing Policy* indeed attains its aim.

How the growth rate in manufacturing will translate into employment opportunities in manufacturing is governed by the employment elasticity. In the period 1999-2000

to 2011-12, the employment elasticity in manufacturing was about 0.35 (see Figure 2). If this elasticity holds also in future, then a ten per cent growth in manufacturing output will result in a growth rate in manufacturing employment of about 3.5 per cent which is higher than the growth rate in employment achieved in the period 1999-2000 to 2011-12, but does not vastly enhance the annual rate of new job creation. If structural transformation in the manufacturing sector towards more labour intensive industries causes the employment elasticity to go up, the extent of employment generation will be higher.

It is interesting to observe from Figure 2 that the employment elasticity in organized manufacturing during 1999-2000 to 2011-12 was much higher than that during 1983-84 to 1993-94 and 1993-94 to 1999-2000. This basically reflects a fast growth in employment in organized manufacturing that has taken place since 2004-05. The average growth rate in employment in organized manufacturing in the period since 2004-05 has been about seven per cent per year, which is much higher than the employment growth rate achieved by organized manufacturing in the past. Goldar (2011) has examined the causes of this accelerated employment growth in organized manufacturing and has come to the conclusion that labour reforms undertaken by states were an important contributing factor.

Figure 2: Employment Elasticity



*Note:* Employment elasticity is computed as the growth rate in employment divided by the growth rate in real GDP (gross domestic product). The real GDP series has been taken from the *National Accounts Statistics* (Central Statistical Office, Government of India). Employment data for the major NSS employment-unemployment survey rounds have been taken and employment estimates for manufacturing has been made for those years.

## Quality of Employment

It is not enough to count how many more jobs the manufacturing sector will create; one also needs to assess the quality of jobs that will be created. In this regard, there are some serious concerns. Unorganized sectors accounts for about 80 per cent of employment in manufacturing at present, and the proportion has not changed much over the past two decades. It seems therefore that the situation may not change drastically in the next ten years. Thus, about four-fifths of the new jobs created in manufacturing would

probably be in the unorganised sector. This is a matter of concern because the wages of workers in unorganised sector is relatively low. Table 2 presents a comparison of wages rates between organised and unorganised manufacturing for 2010-11. It is seen from the table that as compared to the wages of workers in organized manufacturing working in factories that have 500 or more workers, the wages of hired workers in unorganized manufacturing is less than half. In addition to wages, the organized sector workers have other benefits. Thus, there is a vast difference in the labour compensation between the two categories of workers.

**Table 2: Comparison of Wage Rates and Manufacturing by Segments**

Manufacturing segment	Wage rate (Rs. per worker per annum)
Unorganized manufacturing	42,440
Organized manufacturing	
- Employment size below 100	62,590
- Employment size, 100-500	76,773
- Employment size above 500	1,10,018

*Source:* Source: Wages per worker for unorganized manufacturing have taken from *Key Results of Unincorporated Non-agricultural Enterprises (excluding construction) in India*, NSS 67<sup>th</sup> Round, National Sample Survey Office, Government of India, June 2012. The wages per worker in organized manufacturing have been computed from data on workers and wage payment taken from *Annual Survey of Industries (ASI)* (Central Statistical Office, Government of India) for 2010-11.

It should be pointed out here that within unorganised manufacturing there are differences in wages between regularly employed and casual workers. The casual workers get a relatively low wage. Similarly, within the organized manufacturing sector, there are differences in wages between the directly employed workers and the contract workers. The latter get relatively low wages. The proportion of contract workers among organized sector workers has increased over time. In 2010, about 35 per cent of the workers employed by organised manufacturing were employed through contractors. The main point emerging from the above discussion is that even if a rapid growth in manufacturing helps in creating a large number of industrial jobs, a substantial portion of those jobs will be casual or contractual jobs in which the wages paid are relatively low.

Sen, Saha and Maiti (2010) present econometric evidence that indicate that stringent labour regulations have led to greater use of contract workers in organised manufacturing. Goldar and Aggarwal (2012) have analysed the factors that influenced the employment of casual workers in Indian manufacturing and found that that labour market reforms tend to increase the creation of regular jobs. Thus, there is econometric evidence to suggest that labour market reforms will help in lowering casual/contractual employment in manufacturing and thus add to regular, better paid jobs.

## Conclusion

Considering that 70 to 80 million youth are going to enter the labour market in the next ten years, creation of a large number of industrial jobs is important, especially because many the youth may have low education and skills and thus find it difficult to get absorbed in the services sector. For creating a large number of industrial jobs, the manufacturing sector needs to grow fast. By contrast, the manufacturing sector has been experiencing a near stagnation for the last 23 months. To ascribe the current growth problems of Indian manufacturing mostly or entirely to the global economic slowdown is not correct, since there are several domestic constraints on manufacturing growth. Hence, pro-active policy initiatives are needed to boost the manufacturing growth, and when the global economic situation improves, there will be further boosts to manufacturing growth.

A high rate of growth of manufacturing may add to a large number of jobs, but this may not fully meet the aspirations of the youth since a substantial part of the industrial jobs may turn out to be rather low paying with limited or no benefits. This is a second problem that needs to be tackled. There is econometric evidence to believe that labour markets reforms will help in boosting the growth rate in manufacturing employment as well as lower the tendency towards casualization/ contractualization of industrial labour.

## References

Goldar, Bishwanath (2011). 'Growth in Organized Manufacturing Employment in Recent Years' *Economic and Political Weekly*, February 12, 2011.

\_\_\_\_ (2013). 'Sustaining a High Rate of Industrial Growth in India in the Next 10 Years', Paper presented at a Workshop on 'Sustaining High Growth in India', 25-26 July 2013, Institute of Economic Growth, Delhi.

Goldar, Bishwanath and Suresh Chand Aggarwal (2012). 'Informalization of Industrial Labour in India: Effect of labour market rigidities and import competition', *Developing Economies*, June, pp. 141-69.

NSSO (2011), *Employment and Unemployment Situation in India, 2009-10*, National Sample Survey Office, Government of India, 2011.

Sen, Kunal, Bibhas Saha and Dibyendu Maiti (2010). 'Trade Openness, Labour Institutions and Flexibility: Theory and Evidence from India', *BWPI Working Paper* no 123, Brooks World Poverty Institute, University of Manchester.

## Author

Bishwanath Goldar teaches at the Institute of Economic Growth at Delhi University. His areas of specialisation include industrial economics, trade and foreign investment, environmental economics.  
Email: [bng@iegindia.org](mailto:bng@iegindia.org),