



SIZE-STRUCTURE OF THE INDIAN MANUFACTURING SECTOR

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ABSTRACT

This study attempt to analyse the size-structure of Indian manufacturing sector for the period from 2000 to 2015. Our analysis is based on both the informal and formal manufacturing sector. The data on formal sector firms are drawn from the Annual Surveys of Industries (ASI) of the Central Statistical Organisation, Government of India. For the data on informal sector firms, we relied on the Surveys of the unorganised manufacturing sector conducted by the National Sample Survey Office (NSSO) of the Government of India. We apply sampling weights provided by the ASI and NSSO to compute aggregate level information. Our findings show that there is a strong presence of informality in the Indian manufacturing sector. The majority of the enterprises and employment fall in the informal manufacturing sector even though their share of annual value addition remains less than 20 per cent over the period 2000 – 2015.

1. INTRODUCTION

The main feature of modern economic development is seen as a shift from agriculture to manufacturing pursuits and then, away from manufacturing to service (Kuznets, 1973; Herrendorf *et al.*, 2014). This process involves a change in the scale of productive units. The relevance of manufacturing for economic growth derives from the fact that faster growth in manufacturing generates faster growth in the economy by scale up the level of productivity. However, the growth experience of India has taken an unconventional path to become one of the fastest-growing economies in the world. India's growth story has been chalked by the dynamism of the service sector, while, in contrast, manufacturing has been less robust. The share of the manufacturing sector in the country's GDP has remained stagnant; a trend seen for nearly three decades. The production has been shifting away from agriculture, but mostly into service rather than manufacturing. Despite, important product market reforms in the early 1990s, such as trade liberalisation and the abolition of industrial licensing, the share of manufacturing to GDP has remained stagnant over the years.

The strong presence of informality is often highlighted as the most incumbent factor for the poor performance of the manufacturing sector in India (Mazumdar and Sarkar, 2013). Despite the rapid economic growth in the last couple of decades, most of the enterprises (above 99 per cent in 2015) and employment (above 70 per cent in 2015) have remained in the informal sector (Ghani *et al.*, 2013). Their share in annual value addition remains less than 20 per cent; thus, signifying low productivity of the sector. In this backdrop, this study attempts to understand the size-structure and examine the presence of informality in Indian manufacturing sector. This study uses the most recent data from the period 2000 to 2015. The period from 2000 to 2015 is to be noted as a period of the highest growth rate in the history of Indian Economy.

2. DATA AND VARIABLES

We utilise the dataset for the four years, 2000-01, 2005-06, 2010-11 and 2015-16. We will refer to the 2000-01 surveys as the 2000 round, the 2005-06 surveys as the 2005 round, the 2010-11 surveys as the 2010 round, and the 2015-16 surveys as the 2015 round. The data on formal sector firms are drawn from the Annual Surveys of Industries (ASI) of the Central Statistical Organisation, Government of India. For the data on informal sector firms, we relied on the Surveys of the unorganised manufacturing sector conducted by the National Sample Survey Office (NSSO) of the Government of India. We apply sampling weights provided by the ASI and NSSO to compute aggregate level information.

Variables

We presented the size-structure of the Indian manufacturing sector using the three main indicators, namely the number of enterprises, employment, and gross value added (GVA). The definition and measurement of these indicators are as follows:

Number of Enterprises

Indian manufacturing sector includes four types of enterprises – OAMEs, NDMEs, DMEs and formal sector enterprises. The data on each type of enterprises and by location have been taken together to arrive at the number of enterprises in the sector.



Employment

The total number of persons engaged is taken as a measure of employment. It includes workers and supervisory or managerial staff members, whether workers include full-time, part-time, hired and other workers.

Gross Value Added (GVA)

GVA figures have been used to represent the output. GVA is calculated by deducting 'total operating expenses' and 'distributive expenses' from the value of 'total receipts' during the reference period. 'Distributive expenses' includes excise duties, sales tax, non-deductible vat, outward freight and transport charges, and commission to selling agents. We have used real GVA in our analysis. GDP-deflator has been employed to deflate the nominal values at 2011-12 prices.

3. INDIAN MANUFACTURING: SIZE-STRUCTURE

In this section, we analyse the size-structure of the entire manufacturing sector, including both the informal and formal sector enterprises. The size of the sector has been presented in terms of its number of enterprises, employment and GVA. The Table 1 shows the estimated number of manufacturing enterprises, employment and GVA and their percentage share over the period from 2000 to 2015 for both the formal and informal manufacturing sector in India. The entire manufacturing sector accounted for an increasing trend in the number of enterprises, employment and GVA during the period. The Table 1 shows that the number of enterprises in the informal manufacturing sector accounted the highest while the formal sector remained below 1 per cent during the period under study. The total employment, however, has fluctuated considerably in the informal sector. The employment in the informal sector has drastically reduced to 34.9 million in 2010 from 37.1 million in 2000, and again it increased to 36.0 million in 2015 (Table 1). However, the total employment in the formal sector enterprises impressively grew from 7.9 million in 2000 to 13.4 million in 2015 (Table 1). As is evident from the Table 1, despite the rapid economic growth in the last decade, there has been hardly any transformation in the distribution of the number of enterprises, and still, a large number of enterprises (about 99 per cent) and employment (about 73 per cent) have remained in the informal manufacturing sector.

Despite the larger presence of informal enterprises and employment, their contribution to annual aggregate GVA is much lower than the formal manufacturing sector enterprises. The share of GVA of the informal manufacturing sector reduced to 19.6 per cent in 2015 from 23.5 per cent in 2000, which signifies a low level of labour productivity in the informal manufacturing sector.

Table 1: Distribution of Number of Enterprises, Employment and GVA: from 2000 to 2015.

	Enterprise (Number in million)				Employment (Number in Million)				GVA (Rs. in Billion)			
	2001	2006	2011	2016	2001	2006	2011	2016	2001	2006	2011	2016
Informal Sector	17.0	17.1	17.2	19.7	37.1	36.4	34.9	36.0	694.9	778.3	1155.7	1697.0
Formal Sector	0.1	0.1	0.2	0.2	7.8	8.8	12.2	13.7	2058.4	3410.6	6009.4	7887.3
Total	17.1	17.2	17.4	19.9	44.8	45.2	47.1	49.7	2753.3	4188.9	7165.1	9584.3
	Enterprise (%)				Employment (%)				GVA (%)			
	2001	2006	2011	2016	2001	2006	2011	2016	2001	2006	2011	2016
Informal Sector	99.3	99.3	98.9	98.9	82.7	80.5	74.0	72.5	25.2	18.6	16.1	17.7
Formal Sector	0.7	0.7	1.1	1.1	17.3	19.5	26.0	27.5	74.8	81.4	83.9	82.3
Total	100	100	100	100	100	100	100	100	100	100	100	100

Sources: Own estimates.

4. INDIAN MANUFACTURING SECTOR BY MAJOR STATES

We, now, analyse the size-structure by states to examine whether there is any regional consistency. The size-structure in the major Indian states shows a remarkable consistency among most of the states during the period from 2000 to 2015. There is also a regional concentration of the number of enterprises in the country with top four states like West Bengal, Uttar Pradesh, Andhra Pradesh and Tamil Nadu, accounting more than 52 per cent of the total number of enterprises in 2015 (Table 2). With regards to employment too, a similar trend observed for West Bengal (about 15 per cent in 2015) and Uttar Pradesh (about 12 per cent in 2015) the states with the highest share (Table 2). While states like Maharashtra, Gujarat and Tamil Nadu had the highest share of GVA in 2015.



The presence of informality is also witnessed among all the major Indian states, until 2015, majority of enterprises (more than 97 per cent) and employment (above 70 per cent) remained in the informal sector (Table 3). Despite the larger presence of informal enterprises and employment, their contribution to GVA is much lower. However, the share of the number of formal sector employment in the industrially developed states (like Gujarat, Punjab, Haryana and Maharashtra) is comparatively higher than the other states.

Table 2: Distribution of Number of Enterprises, Employment and GVA by Major States: from 2000 to 2015.

States	Enterprises				Employment				GVA			
	2000	2005	2010	2015	2000	2005	2010	2015	2000	2005	2010	2015
Andhra Pradesh	9.7	9.2	9.7	11.3	9.6	8.8	9.5	9.5	6.7	5.9	6.9	6.6
Assam	1.7	2.2	1.3	1.1	1.4	1.7	1.3	1.2	1.1	1.3	1.1	1.0
Bihar	7.5	8.1	4.6	6.5	6.1	6.0	3.6	4.7	4.4	4.2	3.2	2.3
Gujarat	3.3	3.9	8.4	6.5	5.1	6.1	9.8	8.6	12.0	15.3	14.3	16.7
Haryana	1.2	1.4	1.1	1.0	1.7	2.1	2.2	2.3	3.7	4.4	3.7	5.4
Himachal Pradesh	0.6	0.6	0.5	0.5	0.4	0.5	0.7	0.7	0.8	1.5	2.2	2.3
Jammu & Kashmir	1.2	1.0	1.3	1.2	1.1	0.8	0.9	0.8	0.5	0.5	0.6	0.6
Karnataka	6.2	5.7	5.1	6.5	5.8	5.9	5.0	6.5	5.9	6.9	6.0	6.7
Kerala	3.1	3.9	3.0	2.8	3.2	3.9	2.9	2.7	2.7	2.5	1.8	1.9
Madhya Pradesh	5.9	6.3	6.2	5.3	5.2	5.7	5.2	4.9	5.5	4.5	4.3	3.5
Maharashtra	7.5	6.8	8.3	6.5	9.5	9.3	10.7	9.1	19.9	23.1	20.7	19.4
Orissa	5.9	5.7	3.6	2.5	5.4	4.9	3.4	2.3	2.1	2.3	2.5	1.7
Punjab	2.1	1.8	2.3	2.0	2.5	2.3	3.0	2.7	3.4	2.3	3.1	2.3
Rajasthan	3.7	3.8	3.7	3.9	3.2	3.6	3.6	3.8	4.0	3.1	3.1	3.7
Tamil Nadu	9.3	8.9	9.9	9.1	10.5	10.7	11.9	11.8	11.5	9.8	11.7	11.3
Uttar Pradesh	14.5	14.4	14.4	11.8	14.3	13.9	14.2	12.7	9.4	7.8	10.7	10.5
West Bengal	16.6	16.3	16.3	21.5	14.9	13.6	12.3	15.7	6.5	4.7	4.2	4.0
Total	100	100	100	100	100	100	100	100	100	100	100	100

Sources: Own estimates.

Table 3: Distribution of Number of Enterprises, Employment and GVA in Informal and Formal Sector by Major States: in 2000 and 2015.

States	Enterprises				Enterprises				GVA			
	2000		2015		2000		2015		2000		2015	
	Informal Sector	Formal Sector	Informal Sector	Formal Sector	Informal Sector	Formal Sector	Informal Sector	Formal Sector	Informal Sector	Formal Sector	Informal Sector	Formal Sector
Andhra Pradesh	99.2	0.8	98.7	1.3	79.1	20.9	75.2	24.8	26.0	74.0	19.7	80.3
Assam	99.5	0.5	98.2	1.8	81.7	18.3	65.3	34.7	33.4	66.6	20.9	79.1
Bihar	99.8	0.2	99.5	0.5	91.2	8.8	87.4	12.6	30.6	69.4	36.6	63.4
Gujarat	97.6	2.4	98.2	1.8	67.3	32.7	64.0	36.0	15.5	84.5	15.2	84.8
Haryana	97.8	2.2	96.1	3.9	58.7	41.3	37.3	62.7	13.9	86.1	6.1	93.9
Himachal Pradesh	99.5	0.5	97.3	2.7	79.8	20.2	43.5	56.5	17.6	82.4	3.4	96.6
Jammu & Kashmir	99.8	0.2	99.6	0.4	95.3	4.7	84.0	16.0	82.2	17.8	33.9	66.1
Karnataka	99.4	0.6	99.1	0.9	81.6	18.4	69.8	30.2	22.4	77.6	19.9	80.1
Kerala	99.1	0.9	98.9	1.1	77.5	22.5	76.7	23.3	33.4	66.6	37.5	62.5
Madhya Pradesh	99.6	0.4	99.4	0.6	85.5	14.5	79.2	20.8	16.6	83.4	17.4	82.6
Maharashtra	98.6	1.4	98.0	2.0	72.4	27.6	56.8	43.2	16.8	83.2	9.9	90.1
Orissa	99.8	0.2	99.4	0.6	94.5	5.5	77.4	22.6	24.4	75.6	12.5	87.5
Punjab	98.0	2.0	97.0	3.0	67.8	32.2	53.5	46.5	29.6	70.4	21.5	78.5
Rajasthan	99.2	0.8	98.9	1.1	83.5	16.5	73.3	26.7	26.3	73.7	21.8	78.2
Tamil Nadu	98.8	1.2	98.2	1.8	75.6	24.4	60.1	39.9	23.4	76.6	18.3	81.7
Uttar Pradesh	99.6	0.4	99.3	0.7	90.8	9.2	79.1	20.9	34.8	65.2	18.2	81.8
West Bengal	99.8	0.2	99.8	0.2	91.3	8.7	92.0	8.0	51.1	48.9	49.0	51.0

Sources: Own estimates.



5. CONCLUSION

In this paper, an attempt is made to analyse the size-structure of Indian manufacturing sector for the period from 2000 to 2015. Our analysis is based on both the informal and formal manufacturing sector which enables us to examine these two sub-sectors. Our findings show that there is a strong presence of informality in the Indian manufacturing sector. The majority of the enterprises and employment fall in the informal manufacturing sector even though their share of annual value addition remains less than 20 per cent. Our state-level analysis shows a strong presence of informality across states. Further, the economically developed states such as Maharashtra, Gujarat and even Tamil Nadu are experiencing a better performance from the formal sector than in other states. In a nutshell, size structure of Indian manufacturing shows a persistence presence of informality in Indian manufacturing may explain the consistent low performance of the sector.

REFERENCES

1. Herrendorf, B., Rogerson, R. and Valentinyi, A., (2014). *Growth and Structural Transformation*. In: Aghion, P. and Durlauf, N. S. (eds.) *Handbook of Economic Growth*, Elsevier, Vol. 2, Pages 855-941.
2. Kuznets, S., (1973). *Modern Economic Growth: Findings and Reflections*. *The American Economic Review*, Vol. 63, No. 3, Pages. 247-258.
3. Mazumdar, D. and Sarkar, S., (2013). *Manufacturing enterprise in Asia, Size Structure and economic growth*. Routledge, *The book simultaneously published in the USA and Canada*.
4. Ghani, E., Kerr, R. W., and Stephen D. O'C., (2013). *The Exceptional Persistence of India's Unorganized Sector*. *The World Bank Policy Research Working Paper No. 6454*.