



Munich Personal RePEc Archive

**Changing structural composition of the
Informal Manufacturing Sector in India
during 2011-16: An analysis of unit-level
NSSO Data**

Balaji, Arun M and Vijay, R

2023

Online at <https://mpra.ub.uni-muenchen.de/118846/>
MPRA Paper No. 118846, posted 26 Oct 2023 04:37 UTC

Changing Structural Composition of the Informal Manufacturing Sector in India during 2011-16: An Analysis of Unit-level NSSO Data

Arun M Balaji¹ and R Vijay²

Abstract

In the context of an unprecedented decline in the manufacturing employment driven by the informal sector in the post-2010 period, the paper examines the structural compositional changes in the Informal Manufacturing Sector (IMS) in India, the largest employer within the manufacturing sector. Using enterprise-level data between 2010-11 and 2015-16, the paper finds major shifts in employment structures in IMS. Three trends need careful diagnosis. (1) There was tremendous growth in tiny enterprises, with a withdrawal of larger firms. (2) These tiny firms were overwhelmingly owned and operated by female entrepreneurs in rural areas. (3) These trends are more evident in the rural economy, which saw a withdrawal of family labour, and wage labour from the sector. A partial diagnosis lies in understanding the linkages between structural changes within IMS and the job loss nature of the economic growth which in turn has severely impacted the consumption demand.

JEL Codes: E24, O14, O17

Keywords

informal sector, manufacturing, capitalist development, employment, employment crisis, petty production.

¹Arun M Balaji (arunbalaji1898@gmail.com) is a Research Scholar at Centre for Development Studies, Thiruvananthapuram.

² R Vijay (r.vijay@uohyd.ac.in) is a Professor at University of Hyderabad, Hyderabad.

Corresponding author:

Arun M Balaji, Centre for Development Studies, Prashanth Nagar, Ulloor, Thiruvananthapuram, Kerala-695011.

E-mail ID: arunbalaji1898@gmail.com

Contact no.: +91-9810479356.

1. Introduction

The employment capacity of India's manufacturing sector has been a subject of significant concern for development economists, who have grappled with the issue of limited capitalist development within the Informal Manufacturing Sector (IMS, henceforth) as its formal counterpart has failed to create employment opportunities that correspond proportionately to its output production (Nagaraj 2011). Given this context, the recent decline in manufacturing employment, driven by a decrease in IMS employment, raises serious questions about the nature and development of IMS (Mehrotra and Parida 2019). Interestingly, around the same period spanning from 2010-11 to 2015-16, the total number of informal manufacturing units witnessed a 16 per cent increase, as reported by the National Sample Survey Organisation (NSSO 2012; 2017). Hence, there was a decline in the labour input used at the sectoral level despite the increase in the number of units. In this paper, we attempt to understand this phenomenon from the lens of the structural composition of the IMS enterprises and its changes. The data presented in this paper has been calculated from the unit-level data of the 67th (2010-11) and 73rd (2015-16) rounds of the Unincorporated Non-Agricultural (Excluding Construction) Enterprises Survey collected by the NSSO.

The studies that have defined the structure of the IMS so far have done so mainly in the context of developing capitalist relations within the sector (for example, Ranis and Stewart, 1999; Basole and Basu 2011; Bhattacharya et al. 2013). Despite their theoretical differences, these studies define and understand the structure of the IMS in terms of dualism. That is, the existence of the enterprises operating solely with unpaid family labour (traditional enterprises) on the one hand and, on the other hand, the set of enterprises which hires paid labour operating with capitalist logic (micro-capitalist enterprises). However, the NSSO reports that the period under study did not witness growth in the share of capitalist enterprises, which remained at 15 per cent of total IMS enterprises throughout (NSSO 2012; 2017). Hence, the dualism approach will be insufficient to capture the recent enterprise-level changes within the IMS that have led to a decline in the size of the overall workforce of this sector.

In this paper, we deploy a different approach to understanding the structural and compositional changes within the IMS. Similar to the 'mode of production' (capitalistic or non-capitalistic), which was a defining feature of an enterprise in the dualism approach, there are other features (or characteristics/variables) which determine the position of an enterprise within the IMS. We

use three such significant features/characteristics of an enterprise, identified from the literature, other than its mode of production, which determines its position within the IMS.

One, the size of an enterprise (defined in terms of capital and labour) is reported to have a direct connection with the size of the surplus an enterprise can accumulate and re-invest to expand its production (NCEUS 2007). Two, the gender of the owner of the enterprise. The discriminatory gendered division of labour entails that male enterprises appropriate better remunerative production processes in the value chain while female enterprises often engage in low-paying labour-intensive processes (Bajaj 1999; NCEUS 2007; Bose 2023). Hence, the gender of an entrepreneur plays a vital role in the position of the enterprise. Three, the spatial location of the enterprise. Urban enterprises are often placed in an advantageous position vis-à-vis rural enterprises due to the easier access to the market, technology, and other infrastructural benefits that the former enjoy (Ghani and Kanbur 2013; Ramachandran and Sasidharan 2021). Hence, we analyse the structural composition of the IMS using three characteristics.

The paper consists of six sections. The following section presents an empirical overview of the IMS in 2010-11. The third section presents the size-wise compositional changes (as defined by an enterprise's value of capital ownership and its labour input) of the IMS. The fourth section presents the compositional changes of the IMS in terms of gender. The fifth section discusses the spatial composition of the IMS. Finally, the last section discusses the findings and concludes.

2. IMS: An Empirical Overview

The IMS in India comprises two types of enterprises- a) Own Account Enterprises (henceforth, OAEs) and b) Establishments (henceforth, ESTs). By definition, the OAEs do not hire any paid labour, while the ESTs operate with hired labour. The OAEs, often called 'petty-producers', are the traditional enterprises which operate on 'non-capitalist' logic as it uses unpaid family labour while the ESTs, often called 'micro-capitalist', operate on 'capitalist' logic as it uses paid wage-labour (Basole and Basu 2011; Bhattacharya et al. 2013). The micro-capitalists generate higher levels of surplus and employment than the petty producers who barely subsist (NCEUS 2007; Bhattacharya and Kesar 2018). Even as late as 2010-11, the share of OAEs in the entire IMS enterprises remains at a staggering 84.8 per cent, while the ESTs account for only 15.2 per cent of the entire IMS enterprises (see Table 1). This massive share of the OAEs,

which has remained almost unchanged despite high growth, has been a phenomenon which has attracted scholarly attention. However, the OAEs and ESTs are heterogeneous (see Table 1).

Table 1: Composition of IMS Enterprises by Type of Ownership in 2010-11 (in per cent)

Type of Ownership	Own Account Enterprises* (OAE) (I)	Establishments* (ESTs) (II)	Overall IMS (I+II)
A. Male Proprietorship (PP) Enterprises (i+ii)	45.5	14.3	59.8
i) Rural	30.5	5.2	35.7
ii) Urban	15.0	9.1	24.1
B. Female Proprietorship (PP) Enterprises (iii+iv)	39.1	0.8	39.9
iii) Rural	23.0	0.3	23.3
iv) Urban	16.1	0.5	16.6
C. Partnership Enterprises	0.2	0.1	0.3
Total Enterprises (A+B+C)	84.8	15.2	100.0

Source: Author's Calculations from 67th round of NSSO Data

*NSSO records the enterprises which do not hire wage labour as OAE and those which hire wage labour as Establishments. However, unpaid family labour is counted as a worker.

Note: Each entry in the table represents the share of the enterprises in the particular category in the Total IMS enterprises.

Table 1 presents the composition of the OAEs, ESTs, and aggregate of IMS enterprises by their type of ownership and spatiality in 2010-11. There are three types of ownership categories that the NSSO defines – a) Male Proprietorship (PP) enterprises, b) Female Proprietorship (PP) enterprises, and c) Partnership enterprises. By definition, the PP enterprises are single-owner enterprises, while multiple individuals own the Partnership enterprises, although both could be an OAE or EST. The Partnership Enterprises are negligible in numbers, while almost all the IMS enterprises are PPs. As pointed out earlier, the female PPs account for a large chunk of IMS enterprises, although most are OAEs (Table 1). Hence, most ESTs or the ‘micro-capitalist’ enterprises are headed by male proprietors. The position of Female PP falls lower than the Male PP in the hierarchy, as registered by other scholars (Bajaj 1999; NCEUS 2007; Bose 2023). In addition, there is a precise spatial dimension to the OAEs and ESTs (see Table 1). The majority of the OAEs belong in rural areas, while the majority of ESTs operate in urban areas. Again, the position of a rural enterprise is worse than the urban enterprise in the IMS regarding its ability to grow and expand (Ghani et al. 2012). The manifestation of this hierarchy can be seen in OAEs and ESTs. The OAEs that dominate the IMS sphere contain a higher share of rural and female enterprises, while the ESTs are more likely to be situated in urban areas operated by males.

3. Explosion of Tiny Enterprises

In this section, we present the size-wise composition of the IMS enterprises and its changes both in terms of capital and labour, separately, using the variables: a) value of capital assets owned by an enterprise and b) labour employed by an enterprise.

The size of the capital plays a crucial role in determining whether an enterprise can afford to grow and expand (NCEUS 2007). When an enterprise has a higher level of capital, it gains the capacity to produce more than the surplus needed to ensure subsistence. The subsequent surplus generation allows the enterprise to save and invest, fostering growth and expansion. As a result, this creates favourable conditions for developing capitalist relations. In summary, larger capital enables enterprises to produce more, save, and grow, facilitating the growth of capitalist economic relationships. The distribution of the IMS enterprises based on their size of the value of capital assets owned is quite diverse. In order to capture this diversity, we use the value of capital assets owned (inflation-adjusted) to create four categories of enterprises based on the distribution of enterprises in 2010-11. Category I: Owning capital assets worth up to Rs.10,000; Category II: Rs.10,000 to Rs.40,000; Category III: Rs.40,000 to Rs.1,00,000; and finally, Category IV: Rs.1,00,000 and above.

Table 2: Composition of Informal Manufacturing Enterprises by the Value of Capital Assets Owned in 2010-11 and 2015-16 – All India

Value of Capital* (in Rs.)	Rural		Urban		Rural + Urban	
	Share in 2010-11 (%)	Percentage point change in the share by 2015-16	Share in 2010- 11 (%)	Percentage point change in the share by 2015-16	Share in 2010-11 (%)	Percentage point change in the share by 2015-16
0 - 10,000	34.51	7.97	27.74	0.01	31.74	4.63
10,000 - 40,000	43.69	-2.86	32.55	4.71	39.13	0.22
40,000 - 1,00,000	15.27	-2.89	17.51	0.66	16.18	-1.4
1,00,000 and above	6.53	-2.22	22.2	-5.38	12.95	-3.45
Total	100.00	-	100.00	-	100.00	-

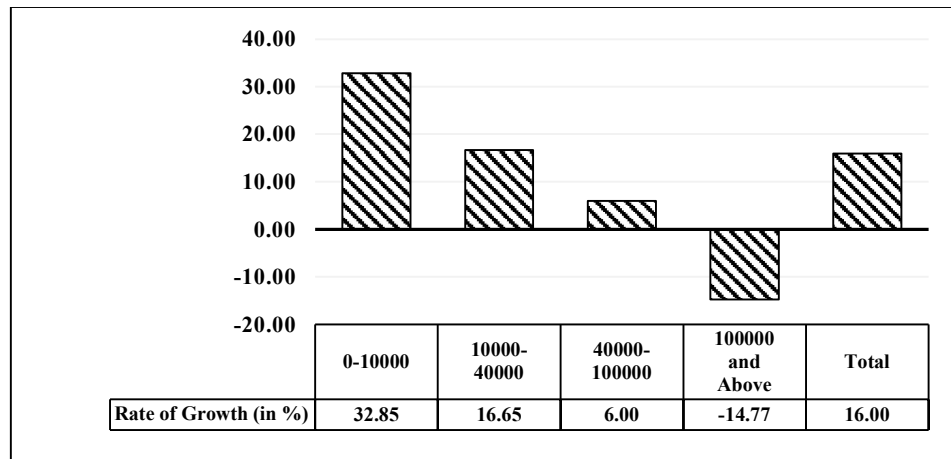
Source: NSSO Unincorporated Non-Agricultural Enterprises (Excluding Construction) 67th and 73rd round

*The value of capital has been adjusted for inflation using the Cost Inflation Index

In 2010-11, at the All-India level, 70 per cent of the IMS enterprises belonged to category I and II. Furthermore, this number was much higher in rural areas, indicating the differences in the size of enterprises across spatial location (Table 2). By 2015-16, the composition significantly changed with a rise in the share of enterprises in categories I and II, while that of the higher categories declined significantly (Table 2). More surprisingly, this compositional

change was not just because of relative changes (in shares) but also in terms of absolute changes (in terms of growth), indicating a withdrawal of enterprises at the upper end and growth of the number of enterprises at the lower end (Figure 1). Hence, there has been a decline in the capital size of an average IMS enterprise between 2010-11 and 2015-16.

Figure 1: Rate of Growth of Informal Manufacturing Enterprises by Value of Capital Assets Owned between 2010-11 and 2015-16 - All India (in %)



Source: Author's Calculation from NSSO 67th and 73rd round of Enterprises survey

The decline in the size of capital of an average enterprise implies a decline in the accumulative capacity of these enterprises. This marks a new regime for the IMS, with an overall decline in the accumulative capacity of the IMS enterprises despite high aggregate output growth as well as manufacturing output growth as compared to the pre-2010 period when the IMS witnessed increases in the accumulative capacity of these enterprises (Moreno-Monroy et al. 2012; Bhattacharya and Kesar 2018).

The Petty Commodity Production (PCP, henceforth) units in India have been understood as self-exploiting units, which are known to overcome the resource (like, capital) shortage by increasingly self-exploit one's labour (Harriss-White 2023). Hence, this period, mainly characterised by job losses, when the non-farm employment opportunities (other than IMS) were low, must have definitely shown an increase in employment (although unpaid). However, the IMS workforce declined significantly. Here, we present the distribution of the IMS enterprises in terms of the size of labour these units employ to understand the dynamics of the workforce decline. We employ the NSS classification, classifying enterprises into three categories (NSSO, 2002). Category I: Employing up to 2 workers; Category II: Employing workers between 2 and 6; Category III: Employing workers above 6. This classification

includes unpaid family workers and working-owners as well. A point to remember is that, as we move from category I to III, the share of OAE declines while the share of ESTs increases. The reflection of this can be seen in the disparity in the share of enterprises in category I in rural areas vis-à-vis urban areas (Table 3).

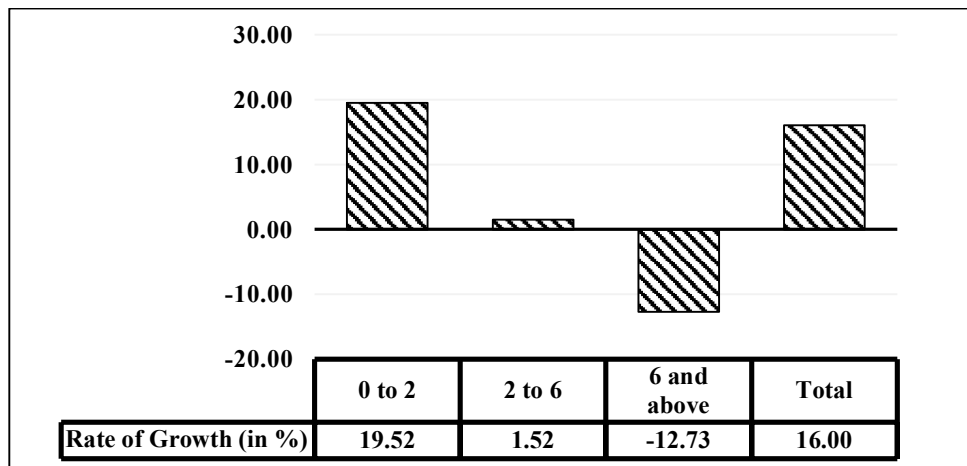
Table 3: Composition of Informal Manufacturing Firms by Total Number of Labour Employed in 2010-11 and 2015-16 – All India

No. of Labour Employed*	Rural		Urban		Rural + Urban	
	Share in 2010-11 (%)	Percentage point change in share by 2015-16	Share in 2010-11 (%)	Percentage point change in share by 2015-16	Share in 2010-11 (%)	Percentage point change in share by 2015-16
Up to 2	88.21	2.17	76.07	3.24	83.24	2.54
2 to 6	9.68	-1.55	18.34	-1.95	13.22	-1.66
Six and above	2.12	-0.63	5.59	-1.29	3.54	-0.88
Total	100	-	100	-	100	-

Source: NSSO Unincorporated Non-Agricultural Enterprises (Excluding Construction) 67th and 73rd round.

*Note: This is the Classification of Enterprises by employment size used by NSS in earlier enterprises survey. This classification considers part-time workers as one worker.

Figure 2: Rate of Growth of Informal Manufacturing Enterprises by Labour Employed between 2010-11 and 2015-16 - All India (in per cent)



Source: Author's Calculation from NSSO 67th and 73rd round of Enterprises survey.

Between 2010-11 and 2015-16, the IMS witnessed a significant increase in the share of the enterprises in category I, the tiny enterprises, while the share of larger enterprises declined. This phenomenon occurred irrespective of the spatial location, indicating the decline in

employment size of both OAEs and ESTs (Table 3). Further, the number of enterprises in Category III had declined in absolute numbers (Figure 2).

An important point to note is that the workforce decline resulted from a decline in paid as well as unpaid labour. A possible interpretation could be that, while on the one hand, this could have been a cost-cutting strategy for the ESTs, on the other hand, it could indicate the inability of the OAEs to increasingly self-exploit in order to ensure subsistence. This would imply a shift in a new regime where the IMS enterprises or the PCP units are unable to ensure bare minimum subsistence, and as a result, the IMS enterprises are undergoing a process of ‘miniaturisation’.

4. Increases in Female Entrepreneurship

Gender is an essential feature within the IMS, much like in agriculture, which decides the position of an enterprise in the value chain. This is because of the patriarchal nature of allocating the production activities that these enterprises engage in. The production processes that require relatively lesser labour while producing more valued products are often appropriated by male enterprises, while female enterprises engage in the production of low-paying products (Bajaj 1999; NCEUS 2007; Samantroy 2019; Bose 2023). Hence, gender plays a vital role in determining the accumulative capacity of an enterprise.

If the miniaturisation (pointed out in the previous section) of these enterprises had resulted from fragmentation of the existing enterprises (the scope for which is less for female enterprises, which are already tiny in size³), then the share of male enterprises should have increased. To check that, we look at the changes in the gender composition of the IMS enterprises between 2010-11 and 2015-16. We use the composition of IMS enterprises by the variable ‘type of ownership’ as a proxy for gender composition, as the partnership enterprises are negligible in number (see Table 1).

As pointed out earlier, despite their weaker position in the value chain, female participation in the IMS entrepreneurship has been quite significant, irrespective of their spatial location (Table 4). Surprisingly, the share of female enterprises increased by 5.5 percentage points between 2010-11 and 2015-16. Interestingly, this was primarily driven by the increase in their share in

³ Refer to Table 1 and NCEUS (2007).

the rural areas, where it grew tremendously by almost nine percentage points, indicating the rural nature of the changes to the gender composition (Table 4).

Table 4: Composition of Informal Manufacturing Enterprises by Type of Ownership in 2010-11 and 2015-16 – All India

Type of Ownership	Rural		Urban		Rural + Urban	
	Share in 2010-11 (%)	Percentage point change in share by 2015-16	Share in 2010-11 (%)	Percentage point change in share by 2015-16	Share in 2010-11 (%)	Percentage point change in share by 2015-16
Female PP	39.4	8.9	40.58	0.81	39.88	5.55
Male PP	60.25	-9.89	58.96	-2.3	59.72	-6.74
Partnership Enterprises	0.35	0.99	0.46	1.49	0.4	1.19
Total	100	-	100	-	100	-

Source: NSSO Unincorporated Non-Agricultural Enterprises (Excluding Construction) 67th and 73rd round

Table 5: Rate of growth of Informal Manufacturing enterprises by Type of ownership between 2010-11 and 2015-16 - All India (in per cent)

Type\Sector	Rural	Urban	Rural+Urban
Male PP	-3.96	13.14	2.80
Female PP	40.69	19.97	32.06
All PP	13.69	15.92	14.52

Source: Author's calculation from 67th and 73rd rounds of NSSO Enterprise Survey

The whole growth of IMS enterprises at the All-India level in this period was mainly due to the growth of female enterprises, which grew in absolute numbers by 32 per cent, while male enterprises grew marginally in absolute terms (Table 5). Further dissecting the growth numbers spatially indicates the rural nature of the changes to the gender composition. The rural changes presented in Table 5 indicate the restructuring of the gender composition as the male enterprises withdrew from participation. There are two key points to be highlighted here. One, the miniaturisation process pointed out in the previous section was partly a reflection of - a) the 'feminisation'⁴ of the rural IMS and b) the fragmentation of urban IMS, particularly the urban male enterprises. Two, the period between 2010-11 and 2015-16 witnessed a significant restructuring of rural enterprises, indicating a widening gap between rural and urban enterprises.

⁴ The term 'feminisation' here is used to represent the positive growth of the number of female enterprises vis-à-vis the number of male enterprises both in absolute and relative terms.

5. Emergent Rurality

Although there is a dearth of literature on the effects of urbanisation on the IMS, which is predominantly rural, the existing literature has established positive effects of urbanisation on the productivity of informal firms (Ghani and Kanbur 2013; Ramachandran and Sasidharan 2021). The urbanisation of the industry comes with increased access to markets, decreased production costs due to the spatial concentration of industries, and easier access to knowledge and technology. Hence, urban enterprises generally fare much better than rural enterprises in terms of work conditions. Given the importance of urbanisation for developing the IMS, we now look into the most striking feature of the compositional changes presented so far, the rural nature of the miniaturisation and feminisation processes. Contrary to the pre-2010 period, when the share of rural enterprises declined, the post-2010 period marks a phase of stagnancy in the spatial composition of the IMS (Ghani et al. 2012).

Additionally, the rural nature of the feminisation and miniaturisation processes indicates the widening gap between the rural and urban enterprises driven by the deterioration of the former's ability to expand and accumulate. This aspect, which we call here 'emergent rurality', needs further research that is out of this paper's scope. However, we present the industrial composition of the rural IMS enterprises to highlight the gravity of this emergent rurality.

Table 6: Industrial Composition of Rural Informal Manufacturing Enterprises - All India (Rural)

Manufacturing Sub-Sectors	Share in 2010-11 (in %)	Percentage point change in share by 2015-16	Share of enterprises engaged in sub-contracting within each sub-sector (in %)
1. Food Products and Beverages	15.23	-1.04	4.60
2. Tobacco Products	17.9	4.42	85.98
2.1. Bidi Manufacturing	17.69	4.15	-
2.2. Other tobacco products	0.21	0.27	-
3. Textile and Wearing Apparel	36.03	1.29	24.04
3.1. Custom Tailoring	21.55	2.35	-
3.2. Others	14.48	-1.06	-
4. Wood, Wood products, Wooden Furniture	15.90	-2.58	10.25
5. Others	14.95	-2.10	26.45
Overall Rural IMS Enterprises (1+2+3+4+5)	100.00	-	33.58

Source: Author's calculation from 67th and 73rd rounds of NSSO Enterprise Survey

The NSSO records the manufacturing activities in 23 categories. However, the IMS engages majorly in some activities. We have aggregated the major activities into four groups- Manufacture of Food products and Beverages; Manufacture of Tobacco Products; Manufacture of Textiles and Wearing Apparel; Manufacture of wood, Wood products and Wooden furniture. While the remaining activities are clubbed into one group - ‘Others’.

The reflection of deterioration in the conditions of the rural enterprises between 2010-11 and 2015-16 can be seen in the changes in the industrial composition of the IMS enterprises (Table 6). The share of enterprises manufacturing tobacco products witnessed a sharp rise while the textile and wearing apparel manufacturing increased marginally (Table 6). While, the share of enterprises engaged in all the other activities witnessed a decline. Further, within tobacco manufacturing, the sub-activity that drove this sharp rise was mainly ‘Bidi’ Manufacturing. ‘Bidi’ manufacturing is considered highly hazardous and poorly paid, predominantly taken up by female enterprises, involved in exploitative sub-contracting arrangements (Table 6; Kusum 2005). Similarly, in the textile and wearing apparel manufacturing industry, it is ‘custom tailoring’ which has increased, again a low-paying economic activity, although better than bidi manufacturing. This evidence, in addition to the feminisation and miniaturisation, indicates the worsening nature of the rural IMS vis-à-vis urban IMS.

6. Concluding remarks

In this paper, we have attempted to examine the compositional changes of the IMS between 2010-11 and 2015-16. This is done to understand the paradox of declining overall employment in the IMS while there was a positive growth of enterprises. We find that the IMS has undergone three significant processes. One, the IMS enterprises are fragmented with the enormous growth of lower-end firms and the withdrawal of upper-end firms. Two, there is a clear and distinct gender character to this growth of the total number of IMS enterprises which was primarily led by tiny female enterprises, which accounted for 43 per cent of the increase in overall number of enterprises⁵. Three, the compositional changes were more evident in rural areas than urban areas, indicating a worsening condition of the former and the subsequent widening of the gap in their conditions. The employment decline, that is, a decline in the participation of family labour (in the case of OAEs) and wage labour (in the case of ESTs),

⁵ Author’s calculations from unit level data of the 67th and 73rd round of enterprises survey conducted by NSSO.

was essentially an implication of this decline in the average capacity of these enterprises, which was a natural implication of the aforementioned processes.

These compositional changes happened during a period of a high GDP growth rate of about seven per cent (Kannan and Raveendran 2019). A critical point needs to be highlighted here. While the tremendous performance of the Indian economy in terms of GDP growth did not translate into the capitalist transformation of the IMS in the period prior to 2010, in the post-2010 period, one can observe a negative correlation between the conditions of IMS and economic growth (Bhattacharya and Kesar 2018). Although the paper highlights some trends, we attempt to provide a plausible explanation behind these compositional changes here. While the IMS produce for large capitalist firms through subcontracting, almost 70 per cent of the IMS enterprises cater to the consumers demanding cheap consumption goods (Basole and Basu 2011). The consumers, here, refer to the individuals in the lower income strata of society. The economic growth, which has transitioned from being job-less to job-loss growth in the post-2010 period, has been relatively biased towards this section of the Indian population, many of whom have witnessed the loss of livelihood and decline in their earnings (Kannan and Raveendran 2019; Ghose and Kumar 2021). Hence, the compositional changes could have resulted from declining demand for the IMS's produce. Ranis and Stewart (1999) argue that economic growth is an essential driver of the capitalist transformation of the IMS. Perhaps, the nature of economic growth is more crucial in determining such a causal relationship.

References

- Bajaj, M (1999): "Invisible Workers, Visible Contribution: A Study of Homebased Women Workers in Five Sectors across South Asia", *Background Paper for Regional Policy Seminar*, Kathmandu: Women in Informal Employment: Globalising and Organising (WEIGO).
- Basole, A and Basu, D (2011): "Relations of Production and Modes of Surplus Extraction in India: Part II – 'Informal' Industry", *Economic and Political Weekly*, Vol 46, No 15, pp 63-79.
- Bhattacharya, R, Bhattacharya, S and Sanyal, K K (2013): "Dualism in the Informal Economy: Exploring the Indian Informal Manufacturing Sector", In S. Banerjee, and A. Chakrabarti (Eds.), *Development and Sustainability: India in a Global Perspective*, pp. 339–62, New Delhi: Springer.
- Bhattacharya, S and Kesar, S (2018): "Possibilities of Transformation: The Informal Sector in India", *Review of Radical Political Economics*, Vol 50, No 4, pp 727-735.
- Bose, S (2023): "The penalty of work from home: gender gap in productivity of unorganised manufacturing firms in India", *Small Bus Econ*, Vol 60, pp 351–69.

- Ghani, S E and Kanbur, R (2013): *Urbanisation and (In) Formalisation*. World Bank Policy Research Working Paper No. 6374.
- Ghani, S E Goswami, A G and Kerr, W R (2012): *Is India's Manufacturing Sector Moving Away from Cities?* NBER Working Paper No.17992.
- Ghose, A K and Kumar, A (2021): "India's Deepening Employment Crisis in the Time of Rapid", *The Indian Journal of Labour Economics*, Vol 64, No 2, pp 247-279.
- Harriss-White, B (2023): "Awkward Classes and India's Rural Development", *The Indian Economic Journal*, Vol 71, No 1, pp 56-77.
- Kannan, K and Raveendran, G (2019): From Jobless to Job-loss Growth: Gainers and Losers during 2012–18. *Economic and Political Weekly*, Vol 54, No 44, pp 39-44.
- Kusum (2005): *Women Beedi Workers: A Report*. New Delhi: National Commission for Women.
- Mehrotra, S and Parida, J K (2019): India's Employment Crisis: Rising Education Levels and Falling Non-agricultural Job Growth. *Working paper, Centre for Sustainable Employment*, Bengaluru: Azim Premji University.
- Moreno-Monroy, A, Pieters, A and Erumban, A (2012): Subcontracting and the Size and Composition of the Informal Sector: Evidence from Indian Manufacturing. *IZA Discussion Paper*.
- Nagaraj, R (2011): Industrial Performance, 1991-2008: A Review. In D. Nachane (Ed.), *India Development Report*, pp 69-80, New Delhi: Oxford University Press.
- National Commission for Enterprises in Unorganised Sector (2007): *Report on Conditions of Work and Promotion of Livelihoods in the Unorganised Sector*. New Delhi: National Commission for Enterprises in Unorganised Sector.
- National Sample Survey Organisation (2002): *Unorganised Manufacturing Sector in India 2000-2001: Characteristics of Enterprises*. Ministry of Statistics and Programme Implementation, New Delhi: Government of India.
- (2012): *Key Results of Survey on Unincorporated Non-agricultural Enterprises (Excluding Construction) in India*. Ministry of Statistics and Programme Implementation. New Delhi: Ministry of Statistics and Programme Implementation, New Delhi: Government of India.
- (2017): *Key Indicators of Unincorporated Non-Agricultural Enterprises (Excluding Construction) in India 2015-16*. Ministry of Statistics and Programme Implementation. New Delhi: Ministry of Statistics and Programme Implementation, New Delhi: Government of India.
- Ramachandran, R and Sasidharan, S (2021): Co-location of Formal and Informal Manufacturing and Firm's Performance: Evidence from India. *The Indian Economic Journal*, Vol 69, No 4, pp 600-613.
- Ranis, G and Stewart, F (1999): V-Goods and the Role of the Urban Informal Sector in Development. *Economic Development and Cultural Change*, Vol 47, pp 259-288.
- Samantroy, E (2019): The Invisible Workers: Capturing Home-based Work in India. *ANTYAJAA: Indian Journal of Women and Social Change*, Vol 4, No 2, pp 181-208.