

# Microenterprises in India: A Multidimensional Analysis

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## About GAME

Global Alliance for Mass Entrepreneurship (GAME) is a multi-stakeholder partnership with the vision of catalysing a thriving environment for Mass Entrepreneurship (ME) in India, resulting in large-scale job creation. GAME's theory of change is to supercharge the level of innovation, learning, advocacy and support for scale such that we crowd in public and private players, policy and funding to catalyse the creation of 10 million MEs by 2030 (half of them women), creating 50M jobs. GAME will operate as an alliance of ecosystem stakeholders engaging as taskforces, members and partners. GAME is a programme under Junior Achievement India Services (JAIS), a section 8 company.

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## About Azim Premji University's work on sustainable employment

Azim Premji University was established in 2010, by the Azim Premji Foundation, with a clear social purpose of working towards a just, equitable, humane, and sustainable society. All of the University's programmes, teaching, research, and practice, work towards this purpose.

To contribute to the critical matter of India creating just and sustainable employment, the University has set up the Centre for Sustainable Employment (CSE), which conducts and supports research in areas of work, labour, and employment. The University is attempting to provide empirically grounded, analytical reflections on the state of work and workers in India, as well as to evaluate and propose policies that aim to create sustainable jobs. To this end the University also gives grants to create new knowledge in the above areas. It also hosts a working paper series to which contributions are invited from researchers, policy-makers, civil society actors, and journalists. The University's CSE website is an important part of this agenda. In addition to research papers and policy briefs, it hosts government reports, as well as data and statistics on the Indian labour market.

**Website:** <https://cse.azimpremjiuniversity.edu.in/>

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# Executive Summary

## Importance of the microenterprise sector

Microenterprises have been the engines of job growth in the majority of dynamic economies. India is home to thousands of microenterprise clusters as well as millions of distributed entrepreneurs who can become job creators. Fostering of such mass-entrepreneurship is key to addressing India's employment challenge.

Case studies of clusters in general, and of women entrepreneurs in particular, show that if key factors such as collective action, infrastructure, credit, and market linkages are in place, returns to entrepreneurship are vastly improved. Inspirational stories are also emerging in the use of fourth industrial revolution technologies to improve access to markets and enter global value chains in a way that awards greater agency to women entrepreneurs.

Our aim in this report is to provide information and analysis that can assist policy-makers and the micro-entrepreneurial ecosystem at large to develop tools required to help this sector flourish. The study looks at non-farm microenterprises that employ less than 20 workers. We analyse various dimensions such as geographical distribution, demographics, gender (employment and enterprise ownership), industrial distribution, labour productivity, and wages. The analysis is based on Economic Census and National Sample Survey data.

## Employment, wages, and productivity: 2010 to 2015

As per NSS data, between 2010 and 2015 employment in non-farm microenterprises (excluding construction) grew from 108 million to 111.3 million, a compounded annual growth rate (CAGR) of 0.6 per cent. Aggregate gross value grew from ₹7.4 trillion (lakh crores) to ₹11.5 trillion (lakh crores) (in constant 2015 rupees), a CAGR of 9 per cent. Thus, as with the rest of the economy, this sector was also plagued by the problem of low output elasticity of employment.

Within the microenterprise sector, single worker firms and firms with up to three total workers accounted for 93 per cent of all microenterprises in 2010 and 94 per cent in 2015. They accounted for 74.6 per cent of all workers and 67 per cent of total gross value added (GVA) produced in 2010. By 2015 this increased marginally to 78 per cent and 68.6 per cent respectively. On the employment front, there was an alarming 5 per cent annual decline in workers in the largest size class in this sector (10-19 workers). From the point of view of structural transformation of the Indian economy, it is worrying that larger enterprises (job creators) have failed to increase their share in GVA and employment.

Despite weak employment generation in general, we find important industry-level variation. Relatively large industries that experienced good employment growth in rural India in this period were apparel, tobacco, restaurants, and education. Employment growth was stronger in urban India in general. Industries that posted particularly good growth in this period (5 per cent CAGR or above) were health, education, tobacco, furniture, and sale of cars and motorcycle.

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We estimate that if both health and education industries continue to grow at this rate they together create roughly 2,60,000 employment opportunities every year just in the microenterprise sector alone. These are productive and relatively better paid opportunities. Women entrepreneurs have also posted a good performance in these two industries.

The textile industry has performed poorly in rural and urban India in employment and output terms. This is concerning because it has been a relatively large employer and is of cultural significance.

Across most industries, value-added growth is higher than employment growth indicating a growth in labour productivity. In rural India, relatively large employers that have managed to deliver wage growth close to productivity growth are apparel, restaurants, personal services, education and health. In urban India these same industries have delivered more than 5 per cent CAGR in wages while posting even stronger productivity growth.

An important caveat here is that high growth rates reflect a low base. Not a single industry among the large employers showed average monthly wages of even ₹10,000 per month in 2015, with the majority lying between six and eight thousand rupees. This makes the strong performance of high wage industries such as education or health, even more impressive.

Sustained high rates of growth will be needed if wage and productivity levels are to be brought even to basic standards. For monthly earnings of ₹10,000 to reach the level of the lowest paid central government employee (₹18,000 a commonly employed benchmark), in five years, they would have to grow at a CAGR of 12.5 per cent.

Firms that have four to five workers are 50 per cent more productive per worker than their smaller counterparts. But beyond this, decreasing returns set in and there is saturation behaviour, perhaps due to infrastructural constraints.

Among the major states, Delhi (as a city-state) stands out with the highest level of productivity but Kerala, Himachal Pradesh, Gujarat, and Maharashtra have higher wages. Wage rates vary from a low of ₹4000 per month in Assam to ₹10,000 in Kerala. As expected the labour surplus states of the north and the east (UP, Bihar, West Bengal, Odisha) rank at the bottom in terms of labour productivity as well as wages. The southern and western states are all above average.

#### **Women entrepreneurs: Performance and location**

In 2015, as per NSS data, women-owned firms accounted for 20 per cent of all enterprises, 16 per cent of all workers, and 9 per cent of aggregate value-added in the non-farm microenterprise sector. Between 2010 and 2015, the share of enterprises and GVA for women did not increase. And there was a fall in the worker share from 18 per cent to 16 per cent.

While on average 20 per cent of all enterprises were women-owned, this share varies widely across industries. Industries that have more than the average share of women owners are tobacco, paper and paper products, chemicals, apparel, textiles, plastics, beverages, education, miscellaneous manufacturing, and wood products. On the other hand women entrepreneurs are under-represented in some key industries such as food (14.9 per cent), retail (10.5 per cent), and health (9 per cent). And they are practically absent in industries such as transport (0.23 per cent) and furniture (0.2 per cent).

The proportion of women-owned enterprises that hire three or more workers is a mere 2.7 per cent. In absolute terms, only 45,000 enterprises hire between six to nine workers, and 25,000 hire more than 10. For men the comparable numbers are 6.3 per cent, 500,000 and 233,000. The total number of workers employed by women-owned enterprises in 2013-14 was 13.4 million of which 77 per cent were female, exhibiting a high tendency for women to work with other women.

The majority of women-owned enterprises were home-based (78 per cent). But the 22 per cent of women-owned firms operating out of a commercial premise are of special interest. Some districts stand out for showing a larger concentration of commercial-premise-based enterprises. Districts with more than 20,000 such enterprises are concentrated in West Bengal (North 24 Parganas tops the country at 38,000, followed by Bardhaman, Murshidabad, and Purba Medinipur). Notable amongst metros is Chennai at 34,000, with Pune, Ahmedabad and Bangalore around the 23,000 mark, and Tirunelveli at 20,000.

In 2015 industries that accounted for just over 90 per cent of all female-owned firms were apparel, retail, tobacco, textile, personal services, education, miscellaneous manufacturing, restaurants, food, wood products, and health.

Large gender gaps are observed in firm performance. In urban India, gross value-added per firm for female entrepreneurs was only 46 per cent of male-owned firms, labour productivity was 62 per cent and assets owned 40 per cent. The corresponding ratios for rural India are 35 per cent, 44 per cent and 43 per cent.

In textiles, apparel, food, and education, assets and productivity of female-owned firms are half or less than that of male-owned firms. Gender gaps are driven by industries where women entrepreneurs are concentrated. It is possible that women pay a penalty for crowding into a few sectors that reduces their bargaining power and hence value-added.

These observations give rise to two policy concerns. One, how to raise levels of female entrepreneurship in industries where women are under-represented and two, how to raise levels of assets and productivity in those industries in which women tend to be concentrated. The first is crucial to reduce the crowding of women into a few industries, particularly hazardous and unproductive ones such as tobacco.

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Male-owned firms tend to be larger and more productive in all large employers. The main exceptions are health and wholesale trade. These two industries stand out because female entrepreneurs in these industries are at least as productive as male entrepreneurs and they also account for at least one per cent of female-owned firms. Health is the only large employer of women entrepreneurs that also hosts relatively larger firms (3.8 total workers, 2.5 hired per firm). Notably, these industries with relatively larger sized female-owned enterprises also show relatively small gender gaps.

Health also emerges as the most productive industry for urban women entrepreneurs with labour productivity of ₹20,751 per month (2015 rupees). Large employers like apparel, food, textiles, tobacco have below average productivity in the range of 3000-4000 per month. The health industry, albeit accounting for just 1.4 per cent of all female entrepreneurs, has shown excellent performance in output, employment, and labour productivity.

Our findings underscore the extent of inter-industry and inter-state variation in microenterprise performance. A key area for further research is thus to explore the factors that explain the such differences in performance. The findings also show that India has failed to increase the scale of microenterprise operation. While this report does not examine the constraints to firm expansion directly, other research has shown the importance of factors such as access to adequate amount of capital (as opposed to microloans which are plentiful), access to quality local infrastructure (such as operating space, local roads, water supply, and electricity), and access to markets.

Currently microenterprises create 11 per cent of jobs in India compared with 30-40 per cent of the jobs in both developed and developing countries. There is tremendous value to be gained from giving due policy attention to this segment of enterprise. We hope that the present study will foster much needed policy action, ecosystem partnership, as well as further research.

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# 1. Introduction

*"Not enough attention has been paid to the middle of the entrepreneurship spectrum, consisting of Mass Entrepreneurs who operate microenterprises supporting local communities and typically employ between five and twenty workers."*

India's employment challenge has been widely discussed in popular, policy, and academic circles in the past few years. In general, over the past two decades, high rates of GDP growth have been accompanied by weak employment generation (Basole et al., 2018). In addition to creating dignified, stable, and remunerative employment opportunities for around eight to nine million youth entering the labour market each year, the economy also needs to create non-farm opportunities for older workers who are leaving agriculture (Mehrotra, 2018). As per data from the National Sample Survey Organisation (NSSO), between 2011 and 2017, the agricultural workforce declined by 10.5 million. Worryingly, however, the manufacturing sector hardly registered any compensatory increase (a mere 69,500). Manufacturing employment in rural areas actually declined by around 170,000. Non-farm employment was generated mainly in construction (5.7 million additional workers) and services (16.7 million additional workers).<sup>1</sup> Overall, the worker participation rate (number of workers per 100 people of working age) declined for men and women, and the rate of open unemployment shot up from under 3 per cent to around 6 per cent. Apart from the creation of an adequate number of jobs, a second significant challenge is achieving the transition from informal and micro-scale to formal and small-to-medium scale production, thereby raising labour productivity and wages. Finally, there are important considerations with regard to the quality of education and the preparedness of youth for the labour market.

Seeing the nature of the challenge, a multi-pronged approach encompassing the supply as well as the demand side of the labour market and public as well as private employment is the way forward. In the last several years, India has focused its attention on skilling as a way to address the jobs challenge, even as there has been a parallel debate on whether the employment gap is a problem of skills, wages or jobs. Regardless, there is rising recognition of the need for job-creators. At one end of the entrepreneurship spectrum are the 75 million self-employed who work on their own account and are a third of India's non-farm labour force.<sup>2</sup> They are predominantly forced into subsistence, necessity-driven entrepreneurship as a result of lack of (stable) employment. These enterprises are unlikely to grow and hire. At the other end of the spectrum are large enterprises and the formal sector, despite whose growth there has been a 3 million loss in salaried jobs in urban India between 2011 and 2016.<sup>3</sup> Further, fast growing, often technology-led, start-ups are not significant job growth engines: NASSCOM foundation estimates that India will have around 10,000 such startups by 2030 supporting just 200,000 workers.<sup>4</sup>

Not enough attention has been paid to the middle of the entrepreneurship spectrum, consisting of Mass Entrepreneurs who operate microenterprises supporting local communities and typically employ between five and twenty workers. These are restaurant owners, healthcare providers, mechanics, and so on. Such microenterprises have been the engines of job growth in most other dynamic economies. The environment to catalyse this can only be created by looking holistically at the supply, demand and enabling sides of the ecosystem that supports mass entrepreneurs.

Aspiration for government jobs and lack of interest in growing businesses, are big hurdles to be overcome. Until recently, there has been no large-scale, concerted effort in building aspirations for entrepreneurship and a growth mindset. There is also a large gap when it comes to nurturing entrepreneurial mindsets early in children, and embedding entrepreneurship within the education system.<sup>5</sup>

*"The study looks at microenterprises that employ less than 20 workers, and analyses various dimensions such as geographical distribution, demographics, gender (employment and enterprise ownership), industrial distribution, labour productivity, and wages."*

Areas of support required for an entrepreneur's journey are not uniformly covered, with skilling and other supply-side interventions being over-represented (with the exception of apprenticeship), and not enough on the demand and enabler sides (infrastructure and policy). Regulations around starting businesses, taxes, and labour are routine deterrents to growing businesses and the employee base. Entrepreneur funding is a significant challenge - the right structures and sources of financing (both for starting a business as well as for the subsequent stages of growth), and major funding pools and quality incubation support for mass entrepreneurs are critically needed to address this. We also know that access to infrastructure, institutional support, and levels of education decide whether small businesses thrive in a particular district.

Meeting these challenges requires significant policy changes and investments in local communities. MSME's, and in particular very small enterprises, have been disadvantaged when it comes to availability of and access to data and analysis - vital in championing and creating a growth agenda around them.

This report focuses on various dimensions of microenterprise performance in India, using data from public sources. We aim to provide information and analysis that can assist policy-makers and the ecosystem at large to develop tools required to help this sector flourish. The study looks at microenterprises that employ less than 20 workers, and analyses various dimensions such as geographical distribution, demographics, gender (employment and enterprise ownership), industrial distribution, labour productivity, and wages. As such it adds to recent literature on the performance of the non-farm unorganised sector in India and across the world.<sup>6</sup>

The report is organised as follows. Section Two describes the data sources used. Section Three describes the basic geography in micro-entrepreneurship and evaluates the performance of the microenterprise sector in manufacturing and services. Section Four examines the gender dimension of microenterprise performance. Section Five concludes.

## 2. Data and definitions

The two principal sources of data for this study are the most recent Sixth Economic Census of India (2013-14) and two most recent rounds of the quinquennial National Sample Survey on unincorporated non-agricultural enterprises (excluding construction), the 67th round (2010-11) and the 73rd round (2015-16). In addition, some data from the Annual Survey of Industries are used where indicated.

Economic Census data were used to conduct a state-level analysis of entrepreneurs in terms their gender, the size of the firms they operate and the location of operation (home-based or commercial). The National Sample Survey rounds on the unorganised manufacturing and services sector (excluding construction) are valuable sources of information on the performance of microenterprises. These are enterprise-level surveys. 90 per cent of the firms in this database fall under the official category of a 'microenterprise' in the sense of owning plant and machinery valued at up to ₹25 lakh for manufacturing firms and up to ₹10 lakh for service sector firms.

NSS data have been used for analysis at the two-digit level of the 2008 National Industrial Classification (NIC) system (see Appendix A for list of industries analysed). Analyses have been performed separately for rural and urban India and for male and female entrepreneurs where possible. In addition, analysis is performed for five size classes of microenterprises. The size classes, based on total workers (paid and unpaid) including the owner, are single worker firms, firms with two to three total workers, four to five total workers, six to nine total workers, 10 to 19 total workers, and firms with 20 or more total workers. We perform the size class analysis for all firms since it is not possible to differentiate male and female entrepreneurs due to sample size limitations. Analysis at two-digit NIC level for major states has also been carried out (see Appendix B for list of states and acronyms). This is for all firms taken together, since it is not possible to differentiate size classes or male/female entrepreneurs due to sample size limitations.

The key characteristics of an enterprise analysed are, the gross value added (receipts less non-wage costs), labour productivity (value-added per worker), assets (excluding land and building), and wage rate. Ratios such as labour productivity and wage rate are calculated at the aggregate level by summing the relevant parameters over the entire sector (or a subset of firms by gender, industry, or size-class) and then dividing to obtain the ratio measure. All rupee values have been given in real 2015 rupees. Value-added, productivity, and wages are reported in monthly terms. Wages have been deflated by all-India Consumer Price Index (CPI-R or CPI-U), GVA has been deflated by the Wholesale Price Index for Manufactured Products, and assets (excluding land) have been deflated by the Wholesale Price Index for Machines and Machinery. All growth rates are presented as compounded annual rates (CAGR).

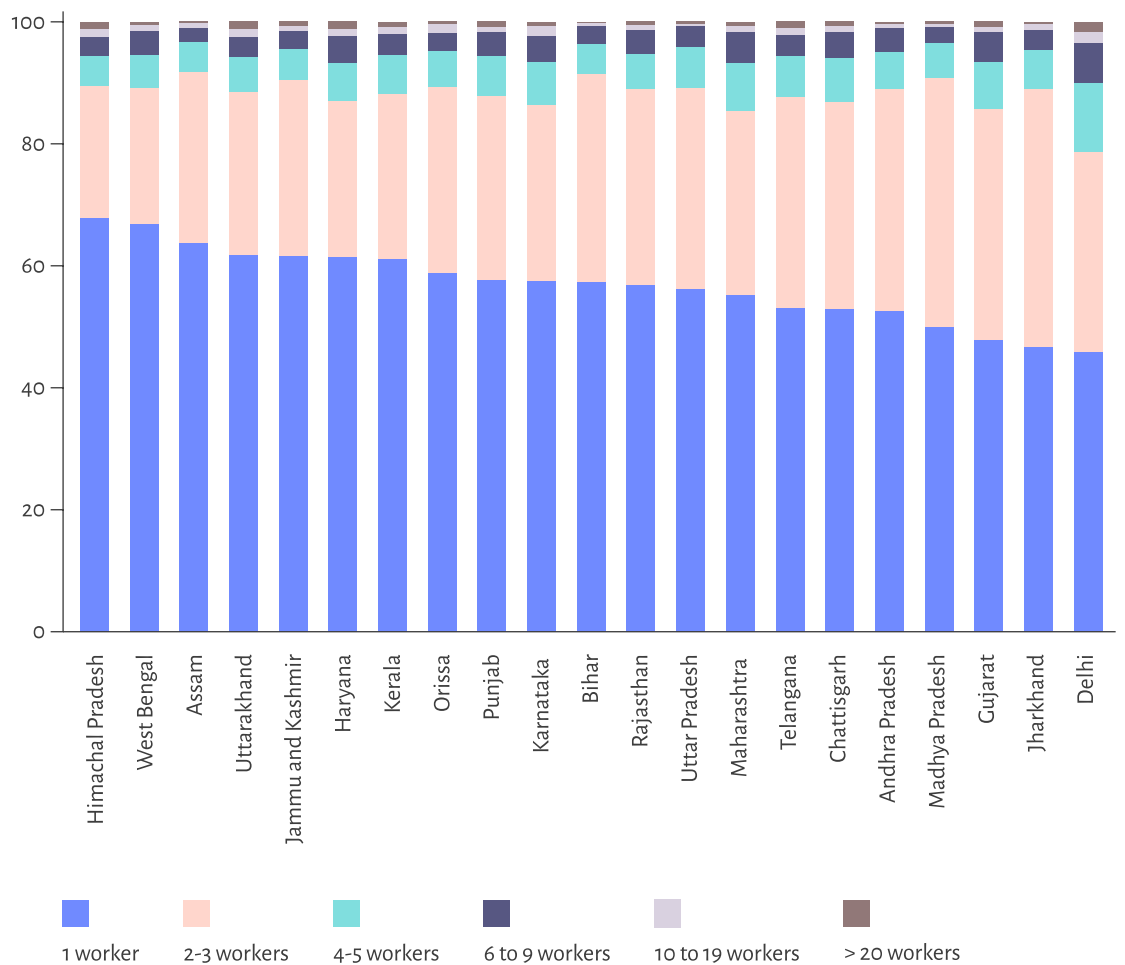
## 3. Performance of the microenterprise sector between 2010 and 2015

### 3.1 / The dominance of the microenterprise

We start our analysis with data from the sixth Economic Census conducted in 2013-14, which is the most comprehensive recent source of information on the scale and social profile of entrepreneurship in India. Firstly, we note that the overall scale of operation across all enterprises in the non-agricultural sector remains small. Figure 1 depicts the share of a particular size class in total enterprises enumerated in the major states. At the all-India level, 55 per cent of all enterprises operated with only one working owner and no paid or unpaid workers. Another 32 per cent operated with only two to three total workers (paid and unpaid). There is, however, some variation in the scale of operation across states. At one end, states such as West Bengal and Assam tend to have a greater than average share of the smallest size classes. In such states, nearly 90 per cent of all enterprises fall within the two smallest size classes. At the other end, Delhi and Gujarat, tend to have slightly larger firms. Albeit, here too, the two or three smallest size classes account for the vast majority of firms. Note also, that the scale of operation, at least by this measure, does not conform completely to the standard thinking on economic geography in India. Karnataka and Bihar are barely distinguishable by the measure. And Jharkhand has a greater proportion of larger firms than does Kerala.

*"At the all-India level, 55 per cent of all enterprises operated with only one working owner and no paid or unpaid workers. Another 32 per cent operated with only two to three total workers (paid and unpaid)."*

**Figure 1: Share of various size classes in total enterprises operating in a state**



Sources and Notes: Authors' calculations based on Sixth Economic Census unit level data

### 3.2 / Microenterprise performance by type of industry

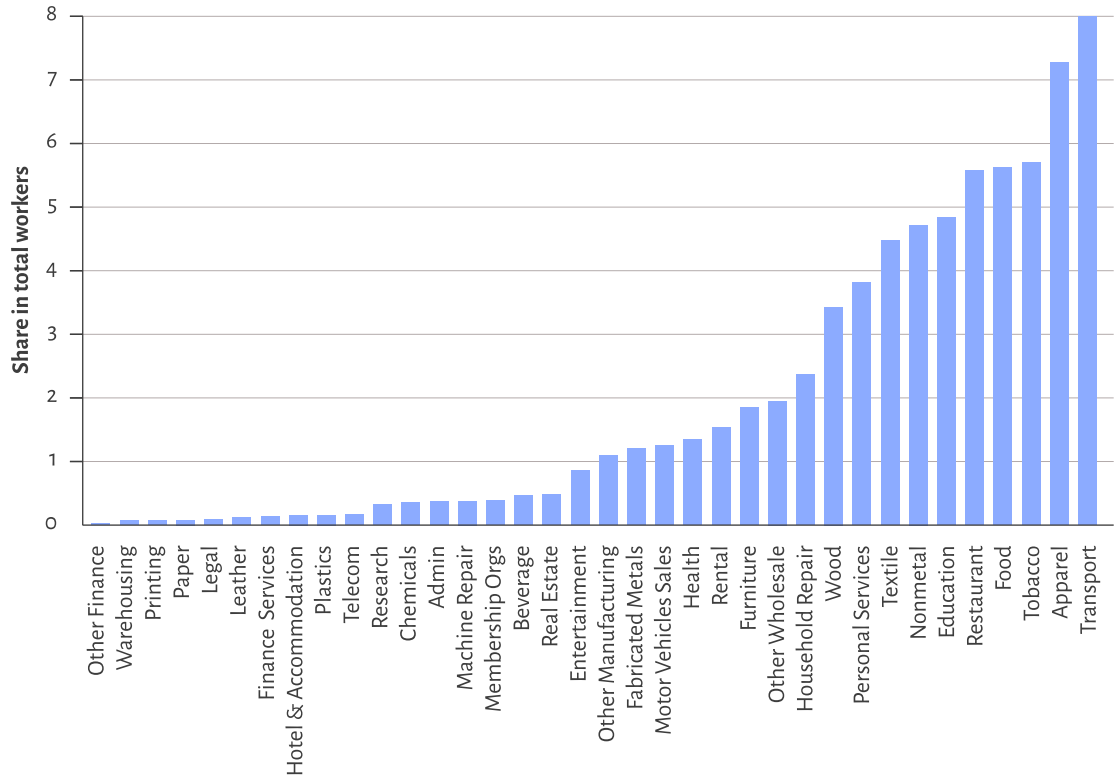
Effective policy design needs information on the scale of operation, levels of productivity, as well as growth in productivity and wages disaggregated by industry, so that better or worse performers may be identified and supported in appropriate ways. The most recent period for which such an analysis can be performed is from 2010 to 2015.

In this period, as per NSSO reports, the estimated number of enterprises in the unincorporated non-agricultural sector (excluding construction) grew from 57.7 million to 63.4 million, a CAGR of 1.9 per cent. Total employment was estimated at 108 million in 2010, growing to 111.3 million in 2015, a CAGR of 0.6 per cent. Aggregate gross value-added estimates were ₹7.4 trillion (lakh crores) in 2010 and ₹11.5 trillion (lakh crores) in 2015 (in constant 2015 rupees), a CAGR of 9 per cent.<sup>7</sup> The discrepancy between growth in value-added and growth in employment shows that this sector is also plagued by the same problem of low output elasticity of employment that is seen in the organised sector.

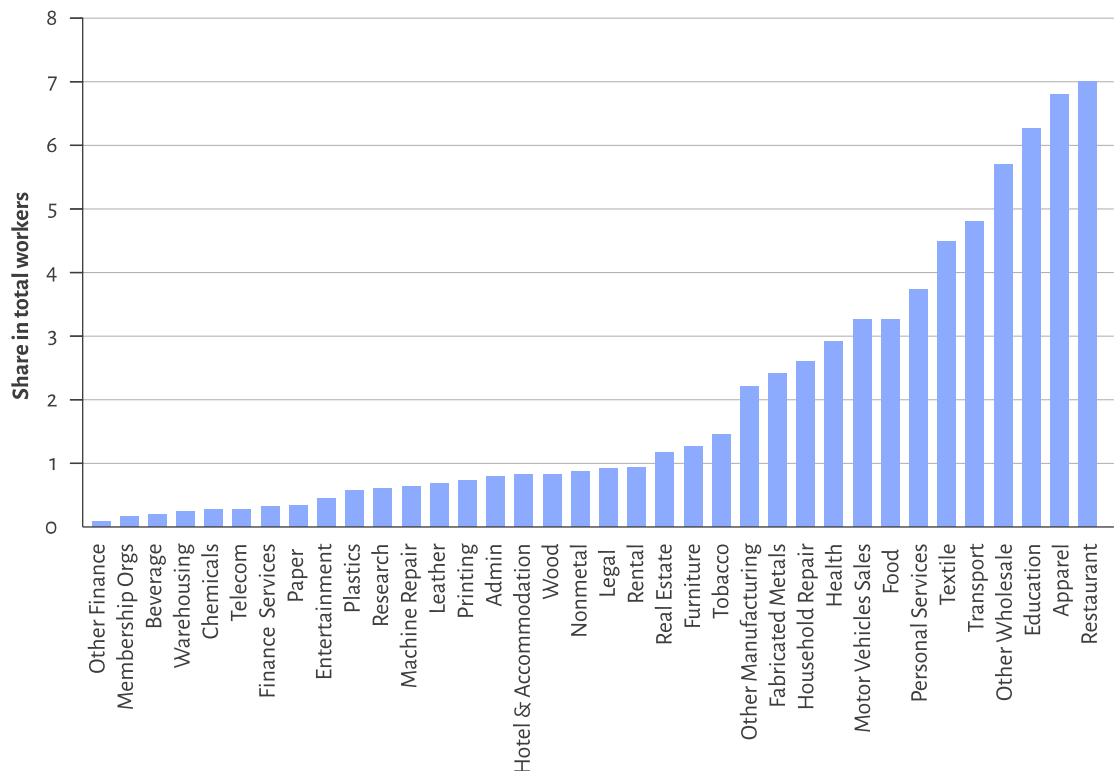
We now analyse the performance of manufacturing and service sector industries with respect to employment and value-added for the period between 2010 and 2015. The full list of industries along with their NIC codes is provided in Appendix A. We first analyse firms of all sizes with male as well as female owners in a combined fashion and subsequently focus on them separately. Rural and urban firms have been analysed separately.

**Figure 2:**  
Industries in the microenterprise sector arranged by share in total workers in 2015

**Rural India:**



**Urban India :**

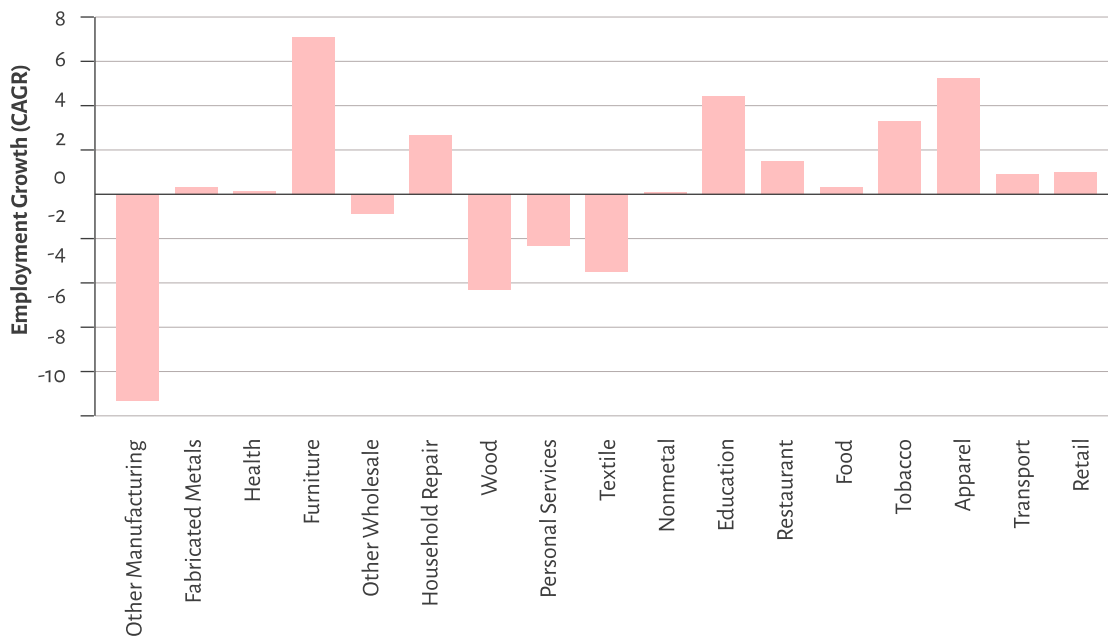


Sources and Notes: Authors' calculations based on NSS 73rd round unit level data. Retail excluded.

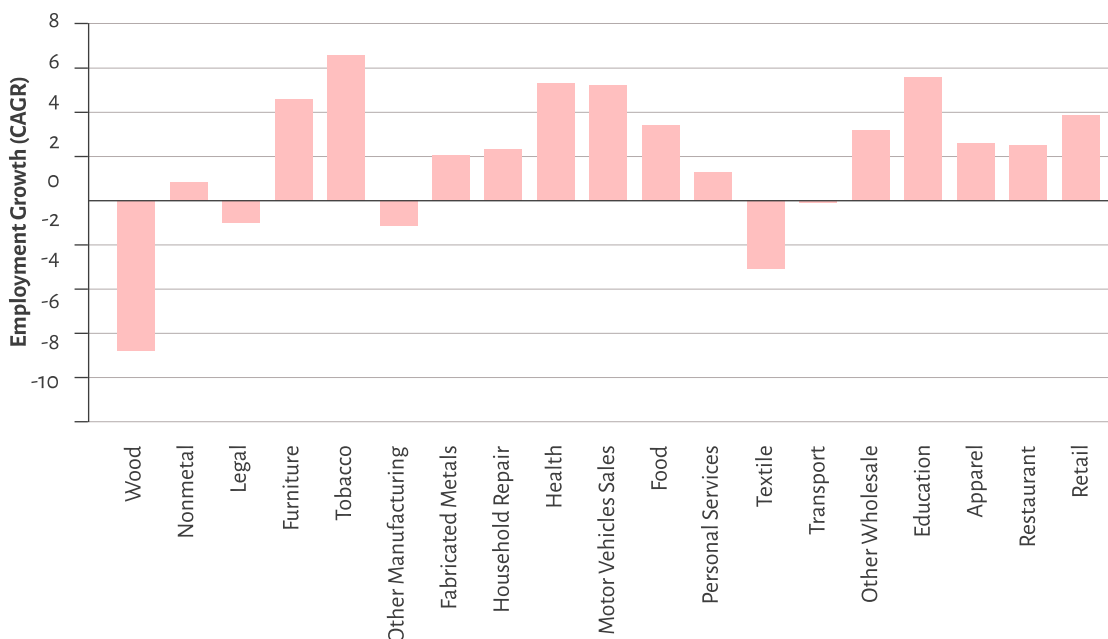
In both years, the retail industry accounted for the largest share of firms as well as workers in rural and urban India, approximately 30 per cent. This is in keeping with the notion that the small-scale retail sector is a ‘surplus labour’ sector similar to agriculture, offering the default option of employment to those who do not find work elsewhere (Basole et al., 2018). The other large employers in rural India were transport, apparel, tobacco, and food products. For urban India, the four largest employers after retail were restaurants, apparel, education, and wholesale trade. Figure 2 shows the share of each industry in total workers in 2015 (retail has been excluded). We restrict the subsequent analysis to industries that accounted for at least 1 per cent share in total workers. These collectively account for 93 per cent of all workers in the sector.

**Figure 3: Growth rate of employment by industry (major employers only) between 2010 and 2015**

**Rural India:**



**Urban India:**

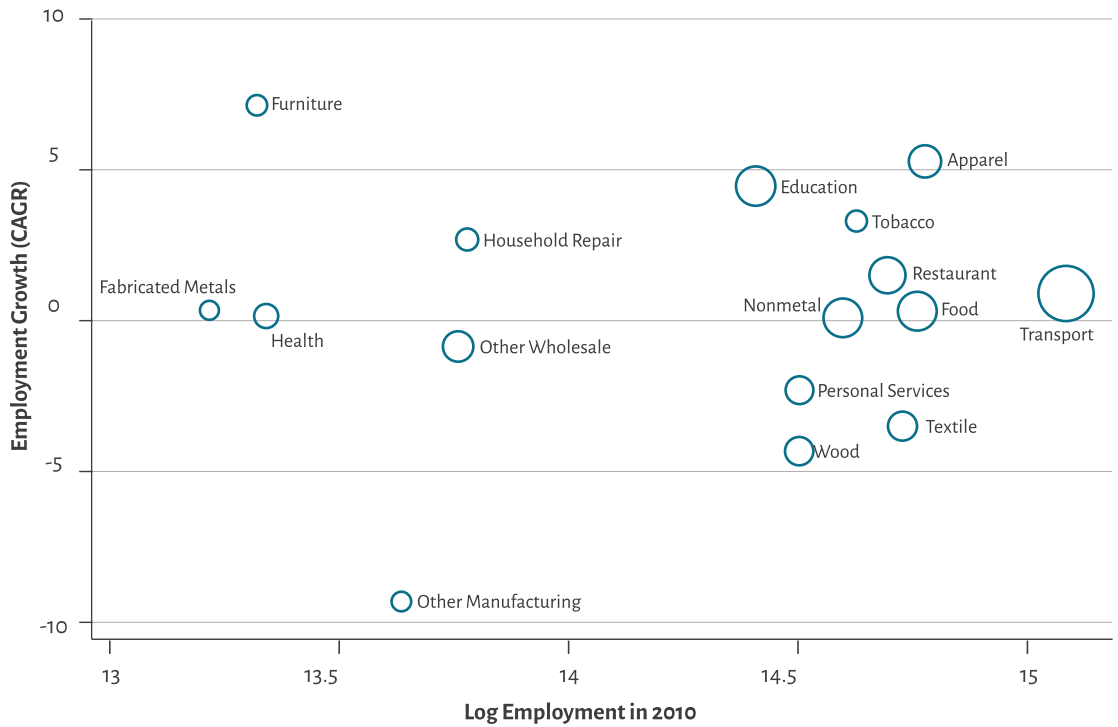


Sources and Notes: Authors' calculations based on NSS 67th and 73rd round unit level data. Financial services excluded. Bars ordered by share of employment in 2015.

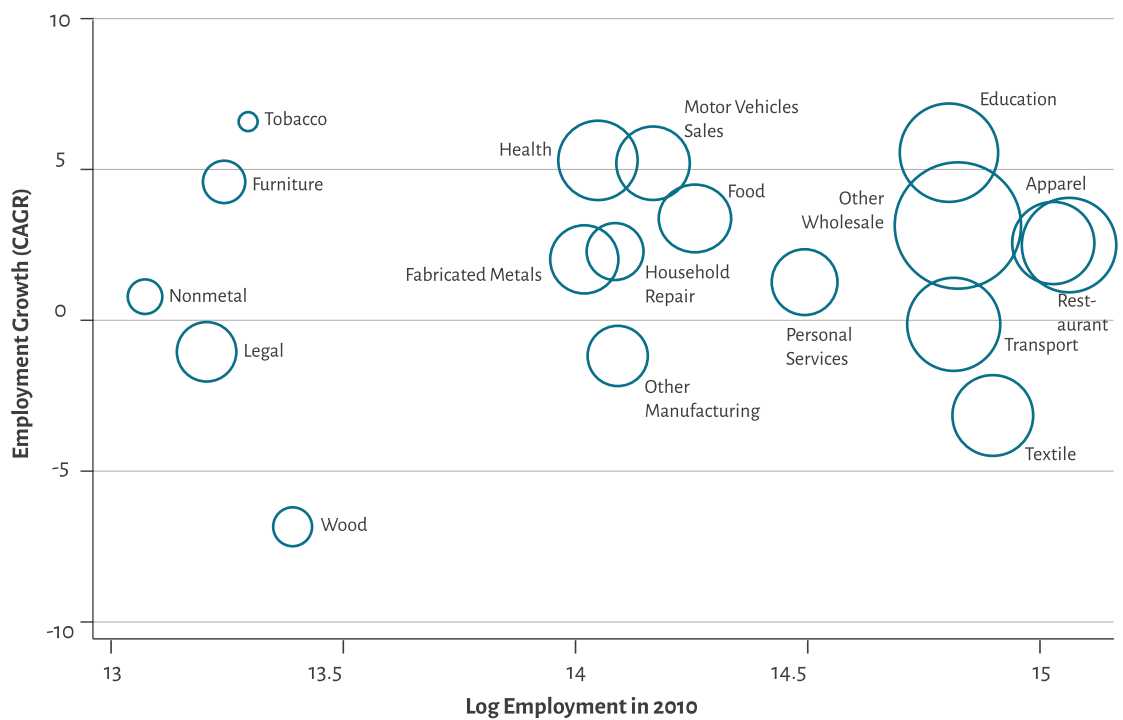
Figure 3 shows the CAGR of employment for these selected industries in rural and urban India. Industries are displayed in increasing order of worker share (large employers are on the right).<sup>8</sup> Relatively large employers that also experienced good employment growth in rural India were apparel, tobacco, restaurants, and education. Employment growth is stronger in urban India in general, but the industries that posted particularly good growth in this period (5 per cent CAGR or above) were health and education, tobacco, furniture, and sale of cars and motorcycles.

**Figure 4: Employment growth between 2010 and 2015 as compared to initial level of employment**

**Rural India:**



**Urban India :**



Sources and Notes: Authors' calculations based on NSS 67th and 73rd round unit level data. Retail and financial services excluded. Circles indicate level of initial GVA.



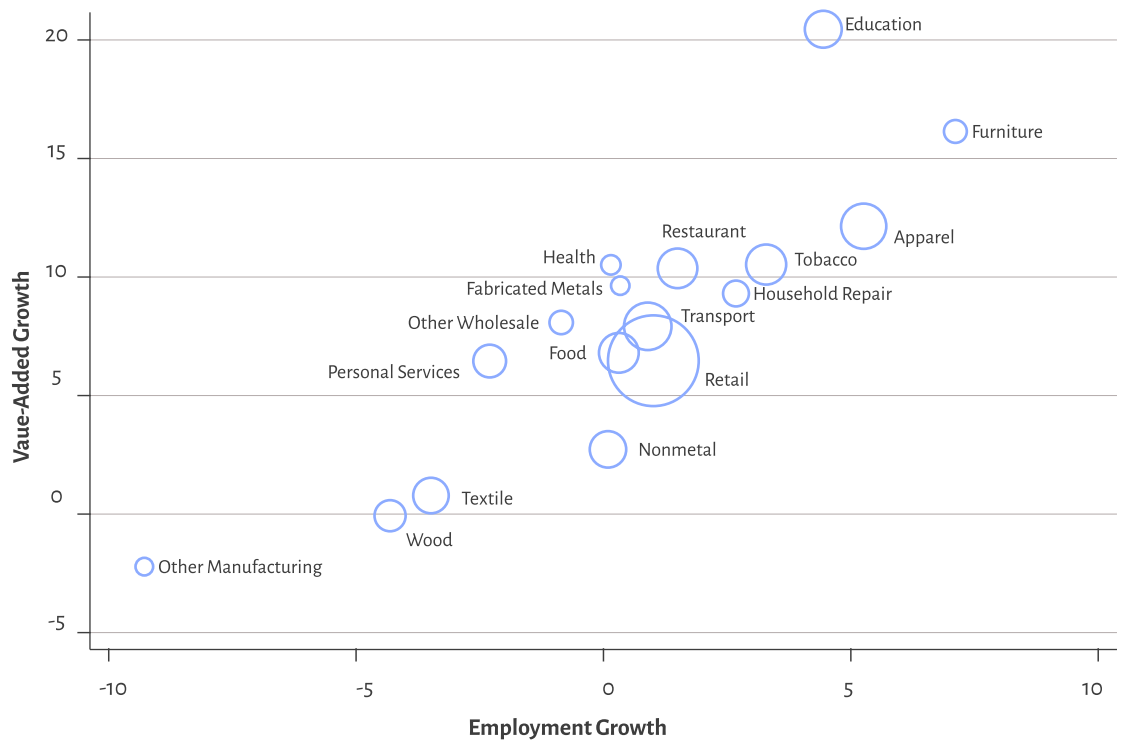
*"Relatively large employers that also experienced good employment growth in rural India were apparel, tobacco, restaurants, and education. In urban India the industries were health and education, tobacco, furniture, and sale of cars and motorcycles."*

What is the relationship between the initial level of employment (2010) and subsequent employment growth? While this requires us to go back to the 2010 levels of employment, which may be regarded as being too old to be of practical use, the question remains important from a policy perspective because it enables us to identify large employers that have demonstrated growth potential. Figure 4 shows a scatter plot of log employment in 2010 against CAGR of employment in the subsequent five year period. The size of the bubbles indicates gross value added in 2010. Thus larger bubbles indicated larger industries in output terms. Once again retail has been excluded for smaller industries to be shown more clearly. This analysis answers the question, which are the relatively large industries (in output and employment terms) who also experienced robust employment growth. The top rural performers are apparel and education. These industries are significant because they are relatively large employers and have also posted employment growth rates of around 5 per cent CAGR. Additionally, they are also strong contributors to gross value added (GVA).

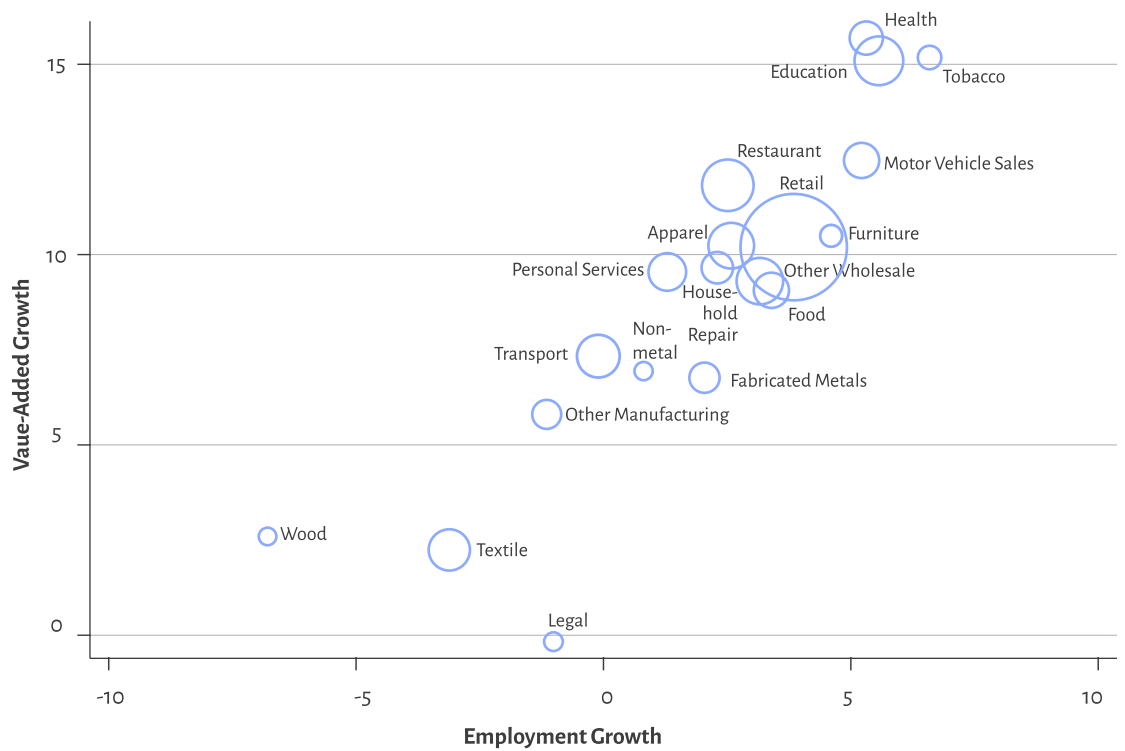
In the urban case, as expected, the larger size of bubbles, in general, indicates larger value-added for all industries. Here too education emerges as a strong performer alongside health and sale of cars and motorcycles vehicles, posting a CAGR of 5 per cent on the employment front. To give a sense of absolute numbers, if both health and education grow at this rate, they together create roughly 2,60,000 employment opportunities every year just in the microenterprise sector alone. And as we show further, these are productive and relatively better-paid opportunities.

**Figure 5: Relationship between growth in value added and employment growth**

**Rural India:**



## Urban India :



Sources and Notes: Authors, calculations based on NSS 67th and 73rd round unit level data. Financial services excluded. Size of circle indicates employment share in 2015.

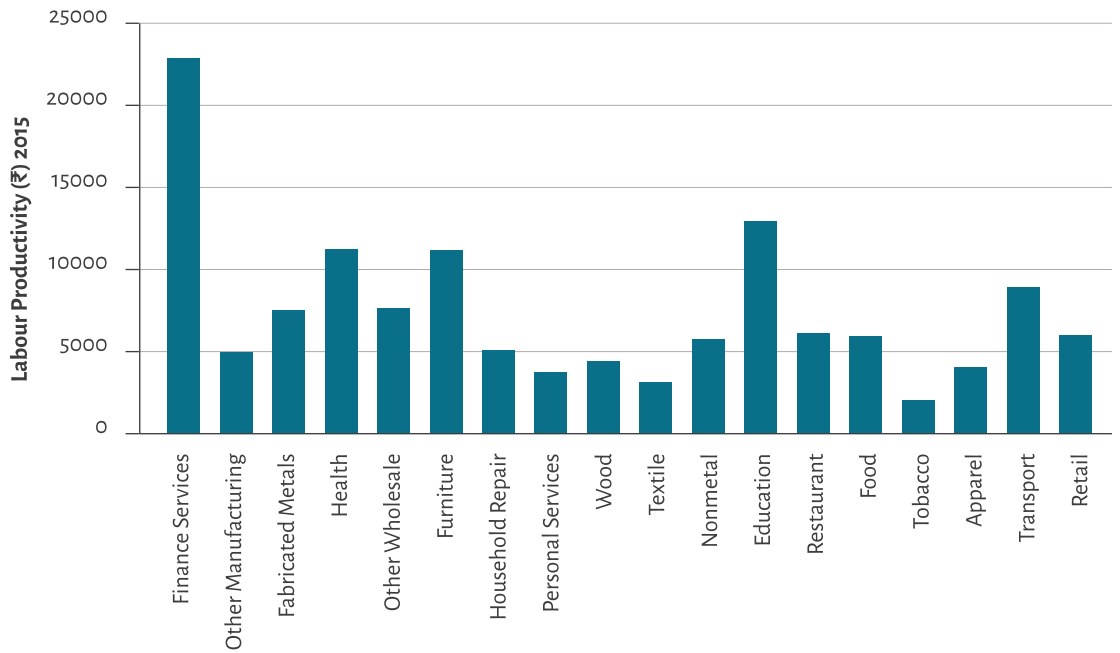
*"The poor performance of the textile industry in the microenterprise sector (rural and urban) is concerning because, alongside apparel, it has been a relatively large employer and is of cultural significance."*

The connection to GVA can be made stronger by looking at the relationship between employment growth and GVA growth in real terms. This relationship is expected to be positive in general but the question is, which are the industries that have posted a good performance along both dimensions. This information is provided in Figure 5, which plots employment growth against GVA growth. The size of the bubble indicates employment share in 2015 to enable us to differentiate between relatively large versus small employers. As can be seen, value-added growth is generally higher than employment growth indicating a growth in labour productivity in most industries. In rural India, large employers like retail experienced strong value-added growth in real terms, but very weak employment growth. Apparel and education stand out clearly here as good performers, posting double-digit real GVA growth as well as nearly 5 per cent CAGR on employment. In urban India once again retail and apparel were strong performers on the value-added front but much less so for employment. Education and health industries have performed exceptionally well in urban areas.

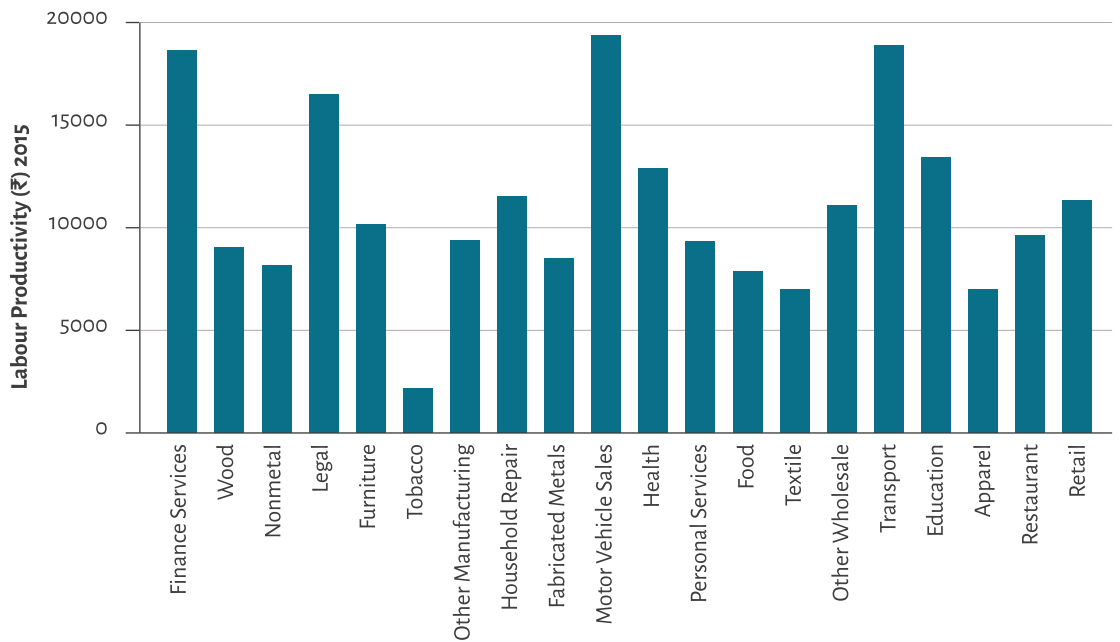
The poor performance of the textile industry in the microenterprise sector (rural and urban) is concerning because, alongside apparel, it has been a relatively large employer and is of cultural significance. It is also geographically widespread. The divergence between apparel and textiles is particularly stark in this period, in rural and urban India. However, case studies of clusters such as those in Surat and Banaras indicate that such microenterprise clusters are capable of growth and innovation if adequate infrastructural support is forthcoming (Basole 2015, 2016; Pohit et al. 2016).

**Figure 6: Labour productivity (rupees per month) across industries, 2015**

**Rural India:**



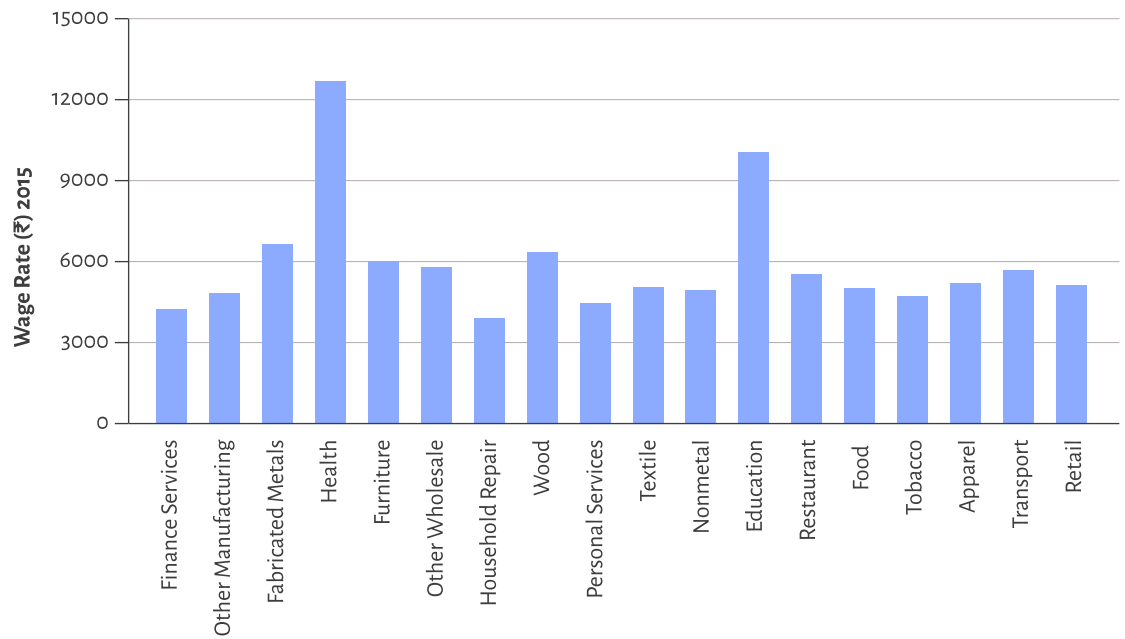
**Urban India :**



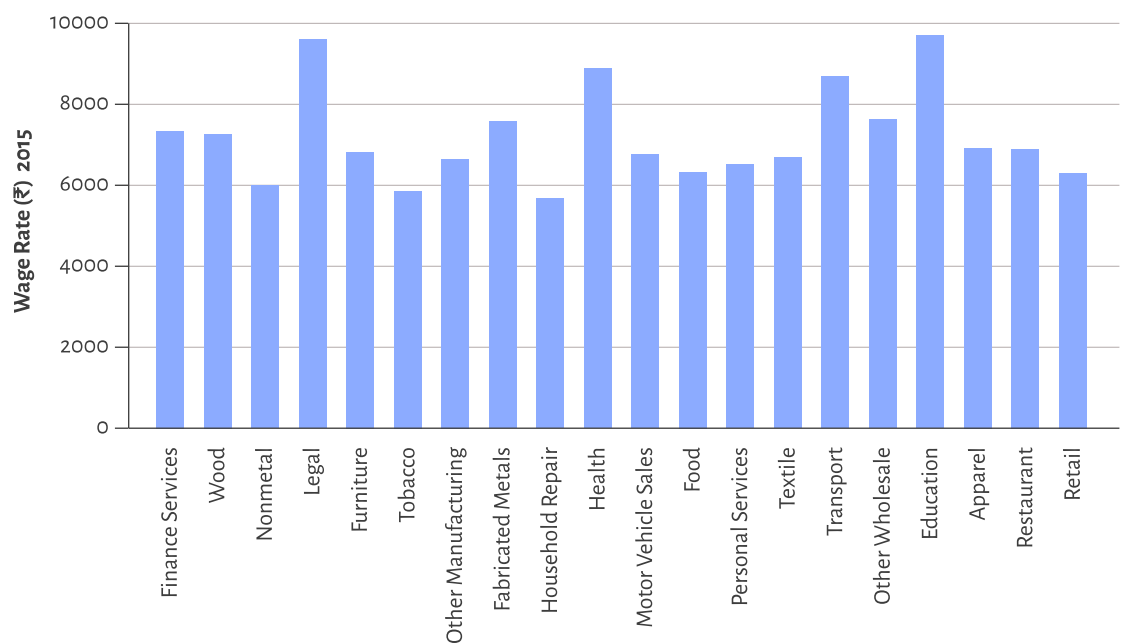
Sources and Notes: Authors' calculations based on NSS 73rd round unit level data. Bars ordered by employment share in 2015.

**Figure 7: Wage rates (rupees per month) across industries in 2015**

**Rural India:**



**Urban India:**



Sources and Notes: NSS 2015. Authors' calculations based on NSS 73rd round unit level data. Bars ordered by employment share in 2015.

Finally, we come to labour productivity and wage rate data. Here we are interested in identifying industries that not only employ a large number of workers or create many jobs but also those that display some capacity to deliver increases in labour productivity and wages. Figures 6 and 7 show levels of labour productivity and wages respectively. Bars are ordered as before with industries accounting for larger employment shares towards the right. The relevance of this exercise is made clear by observing the performance of the tobacco industry in rural India. Levels of labour productivity, as well as wages in this industry, are the lowest among all the large employers in 2015 (less than ₹5000 per month). By contrast education, another relatively large employer (though, of course, not as large as tobacco), has a productivity of nearly ₹13,000 per month per worker and also one of the highest levels of wages among all large employers

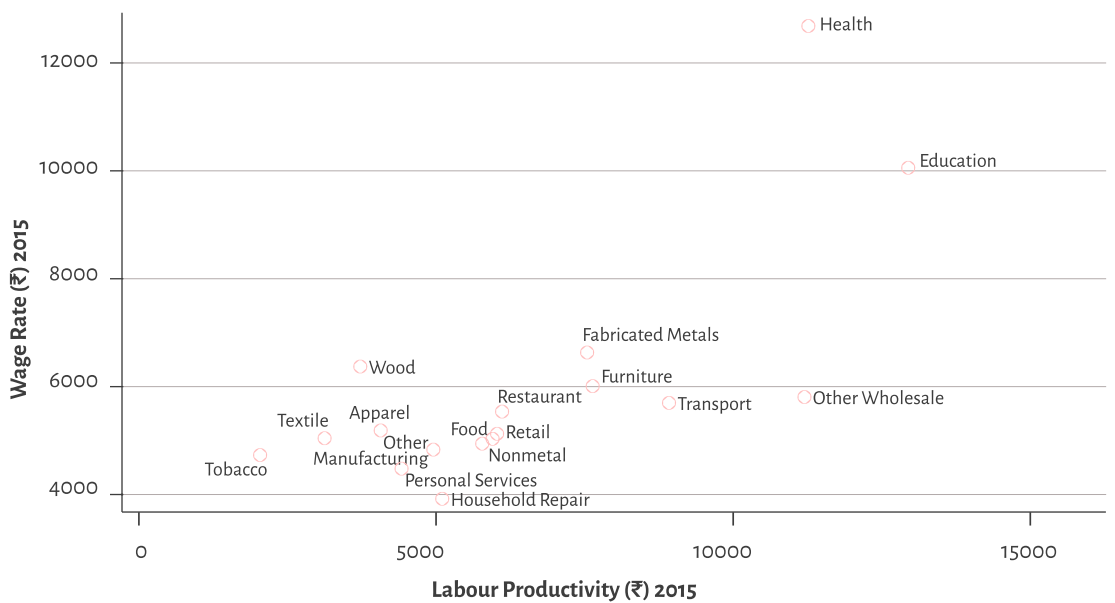
*"Not a single industry among the large employers showed average monthly wages of even ₹10,000 per month in 2015, in urban India."*

(₹10,000). If we take a somewhat arbitrary benchmark of ₹10,000 per month for labour productivity, the industries in rural India that make the cut are education, health, wholesale trade, and financial services. For wages, only health and education make the cut.

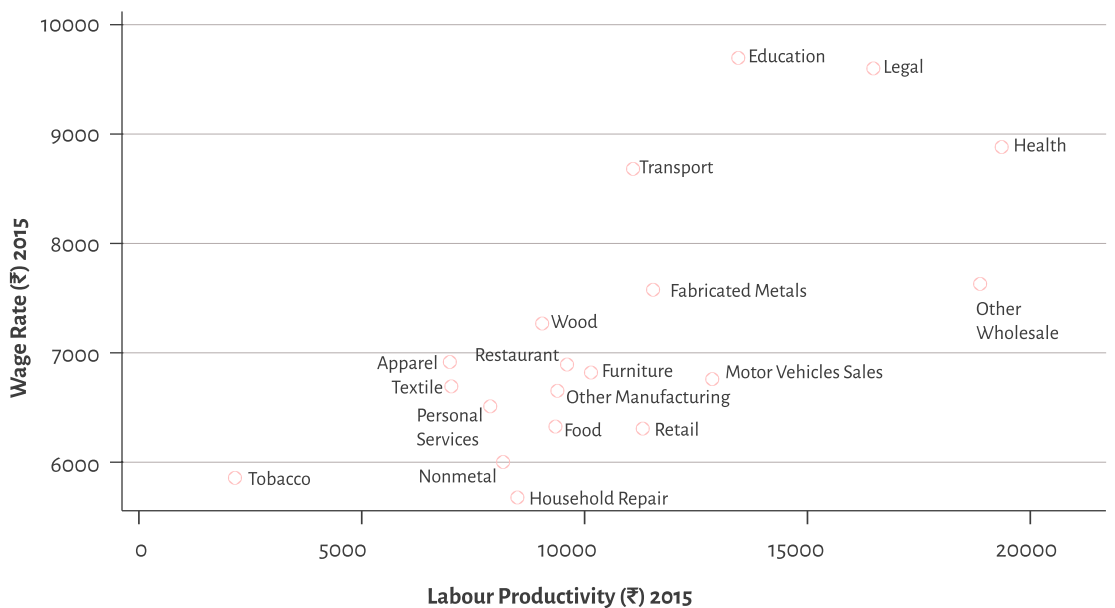
Levels of productivity and wages are on average, of course, higher in urban India. And as in rural India, the service industries tend to be more productive than manufacturing. This is expected since input costs (at least of the non-labour variety) are generally lower for services. Very few manufacturing industries, in urban India, exceed the ₹10,000 threshold (only furniture and fabricated metals) while several service industries do so. As far as wages are concerned, it is worth noting that even in urban India, levels tend to be low. Not a single industry among the large employers we are looking at here, showed average monthly wages of even ₹10,000 per month in 2015, with the majority lying between six and eight thousand.

**Figure 8: Monthly wage rate (₹) versus labour productivity in 2015**

**Rural India:**



**Urban India:**

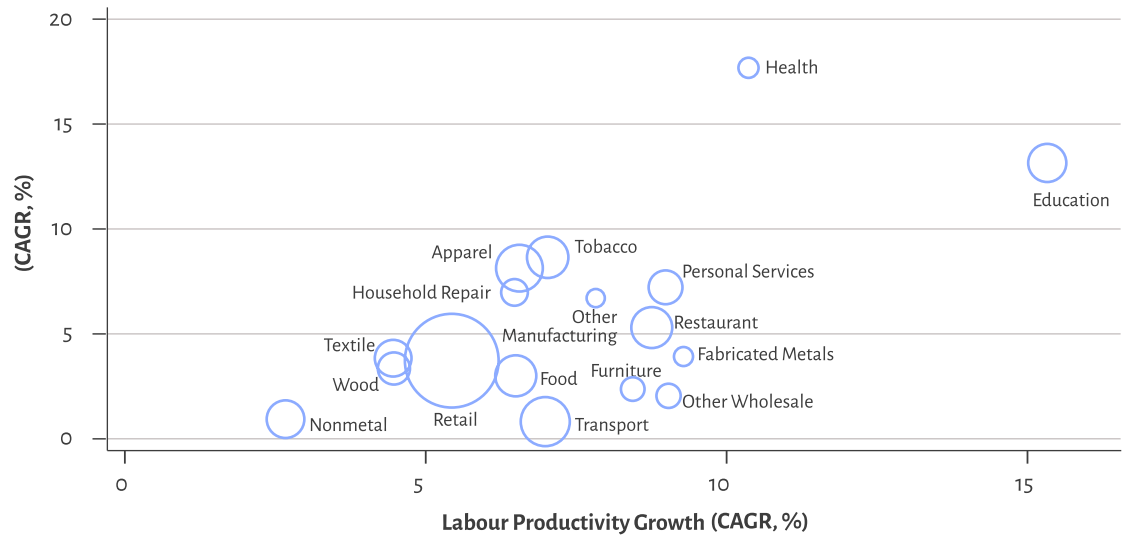


Sources and Notes : Authors' calculations based on NSS 73rd round unit level data. Financial services excluded.

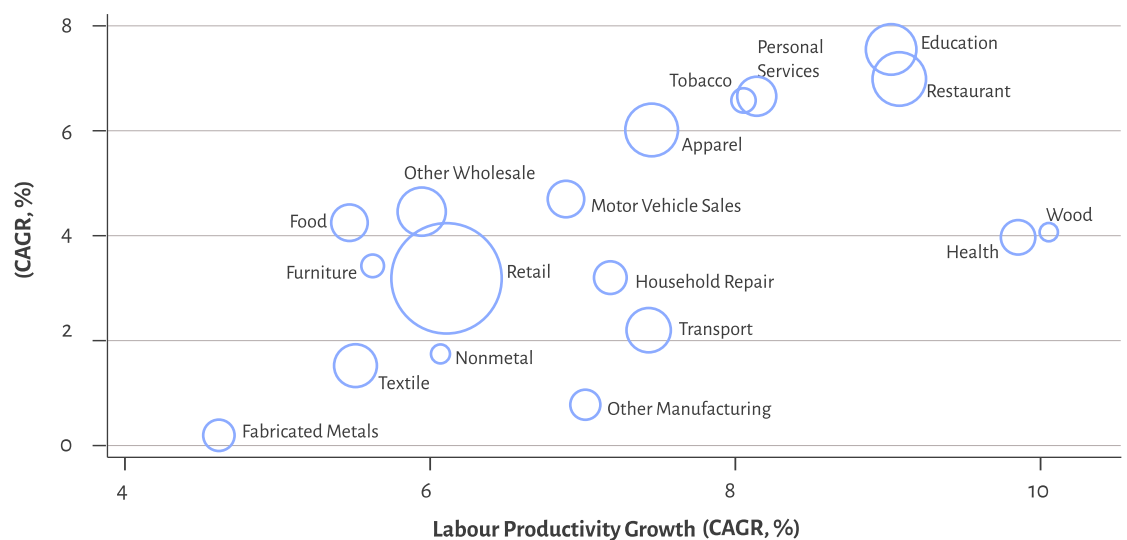
Note that the variation in levels of productivity is much larger than the variation in the wage rate, a point clearly illustrated in Figure 8 which shows a scatter plot of wages against productivity in 2015 for all the major employers (note the difference in scale between the X and the Y axes). This suggests that some industries (those with higher levels of productivity for a given wage rate) would show higher rates of surplus accumulation. It is also not surprising that higher productivity levels do not necessarily translate into higher wages, because the unorganised sector labour market is likely to be a buyer's market with workers largely being price takers.

**Figure 9: Labour productivity growth (CAGR, %) versus wage rate growth (CAGR, %)**

**Rural India:**



**Urban India:**



Sources and Notes: Authors' calculations based on NSS 67th and 73rd round unit level data. Financial services excluded. Size of circle indicates employment share in 2015

Industries also differ in how productivity growth is shared with workers. An indicator of this is the relationship between the growth rate of labour productivity and the growth rate of wages in an industry (Figure 9). In general, as expected, productivity growth exceeds wage growth. In rural India, relatively large employers that have managed to deliver wage growth close to productivity growth (or in one case even

higher than productivity growth) are tobacco, apparel, restaurants, personal services, education and health. Retail, the largest employer, also performs quite well. In urban India, education, restaurants, tobacco, personal services, and apparel have delivered more than 5 per cent CAGR in wages while posting even stronger productivity growth. An important caveat here is that annual growth rates of 5 per cent to 10 per cent for wages and productivity may seem very robust but this reflects the low levels that generally prevail in this sector, as noted above. This makes the strong performance of high wage industries such as education or health, even more impressive.

It is worth emphasising that sustained high rates of growth will be needed if wage and productivity levels are to be brought even to basic standards. For example, for monthly earnings of ₹10,000 to reach the level of the lowest paid central government employee (₹18,000 a commonly employed benchmark), in five years, they would have to grow at a CAGR of 12.5 per cent.

### 3.3 / The importance of scale

*"From the point of view of structural transformation of the Indian economy, it is worrying that microenterprises at the smallest scale have increased their share in GVA and employment while relatively larger ones have reduced in importance."*

Unorganised sector enterprises are usually defined as consisting of less than 10 or less than 20 workers (depending on the focus of the study and the applicable regulatory legislation). However, the vast majority of enterprises are much smaller than these thresholds. Even at the micro-scale, though, size does matter and larger firms tend to be more productive. In the subsequent analysis we adopt five major size classes in which microenterprises are analysed: single worker firms, firms with two to three, four to five, six to nine, and 10-19 total workers (paid and unpaid).

Table 1 gives the shares of these firms in total enterprises as well as total employment and GVA. Single worker enterprises accounted for nearly 60 per cent of all unorganised sector enterprises in 2010. Moreover, this share increased slightly to just under 62 per cent by 2015. Taken together, single worker firms and firms with up to three total workers accounted for 93 per cent of all firms in 2010 and 94 per cent in 2015. They accounted for 74.6 per cent of all workers and 67 per cent of total GVA produced in this sector in 2010. By 2015 this increased marginally to 78 per cent and 68.6 per cent respectively. From the point of view of structural transformation of the Indian economy, it is worrying that microenterprises at the smallest scale have increased their share in GVA and employment while relatively larger ones have reduced in importance, even if marginally.

The scale of operation is very important for productivity even at the lower end of the size spectrum. Table 2 shows GVA per firm, labour productivity (GVA per worker) and the wage rate for all size classes. Firms that have four to five workers are 50 per cent more productive per worker than their smaller counterparts. The wage rate does not vary much across size classes. This creates a higher surplus (productivity less wages) in larger firms, but the major increase is seen in going from two to three worker firms to a four to five worker firm. Thereafter the surplus increases more slowly and even declines for the largest size class. In general, it appears that larger firms are not proportionately more productive indicating that decreasing returns set in fairly early and there is saturation behaviour, perhaps due to infrastructural constraints in the unorganised sector.

*"There is a substantial difference between organised factories and similar sized firms in the unorganised sector as far as key ratios are concerned (by a factor of two to two and a half).*"

Suggestive, but certainly not conclusive, evidence comes from looking at factories in the same size class found in the Annual Survey of Industries database. Table 2 also provides ASI data for manufacturing factories in the 10-19 workers size class. Such factories constitute around 5 per cent of total factories in the ASI database (which is mainly populated by factories with more than 20 workers). There is a substantial difference between these factories and similar sized firms in the NSS database as far as key ratios are concerned (by a factor of two to two and a half in favour of ASI factories). Part of this is undoubtedly a function of capital intensity. But could it also be partly explained by quality of infrastructure available to organised sector firms? It is hard to say at this level of analysis but further research can throw light on the source of these differences and may hold important lessons for improving the performance of microenterprises.

**Table 1: Share of various size classes in total number of enterprises, total GVA and total employment in 2010 and 2015**

	Size	Enterprise Share	GVA Share	Employment Share
2010	One	59.88	31.25	34.84
	2 to 3	33.15	35.94	39.77
	4 to 5	3.91	12.82	9.82
	6 to 9	2.09	11.66	8.43
	10 to 19	0.98	8.33	7.14
2015	One	61.78	32.49	37.27
	2 to 3	32.12	36.17	40.65
	4 to 5	3.78	13.25	9.84
	6 to 9	1.67	10.55	7.04
	10 to 19	0.65	7.54	5.20

Sources and Notes: Authors' calculations based on NSS 67th and 73rd round unit level data.

**Table 2: Levels of productivity and wage rates (rupees per month) across size classes in 2015**

Size class	GVA per Enterprise	Labour Productivity	Wage rate	Productivity-Wage
One	7362	7362	5305	2057
2 to 3	15767	7514	5577	1937
4 to 5	49078	11369	6625	4744
6 to 9	88467	12654	6874	5780
10 to 19	161356	12251	6860	5391
10 to 19 (ASI)	443688	32078	14273	17805

Sources and Notes: Authors' calculations based on NSS 73rd round and ASI unit level data.



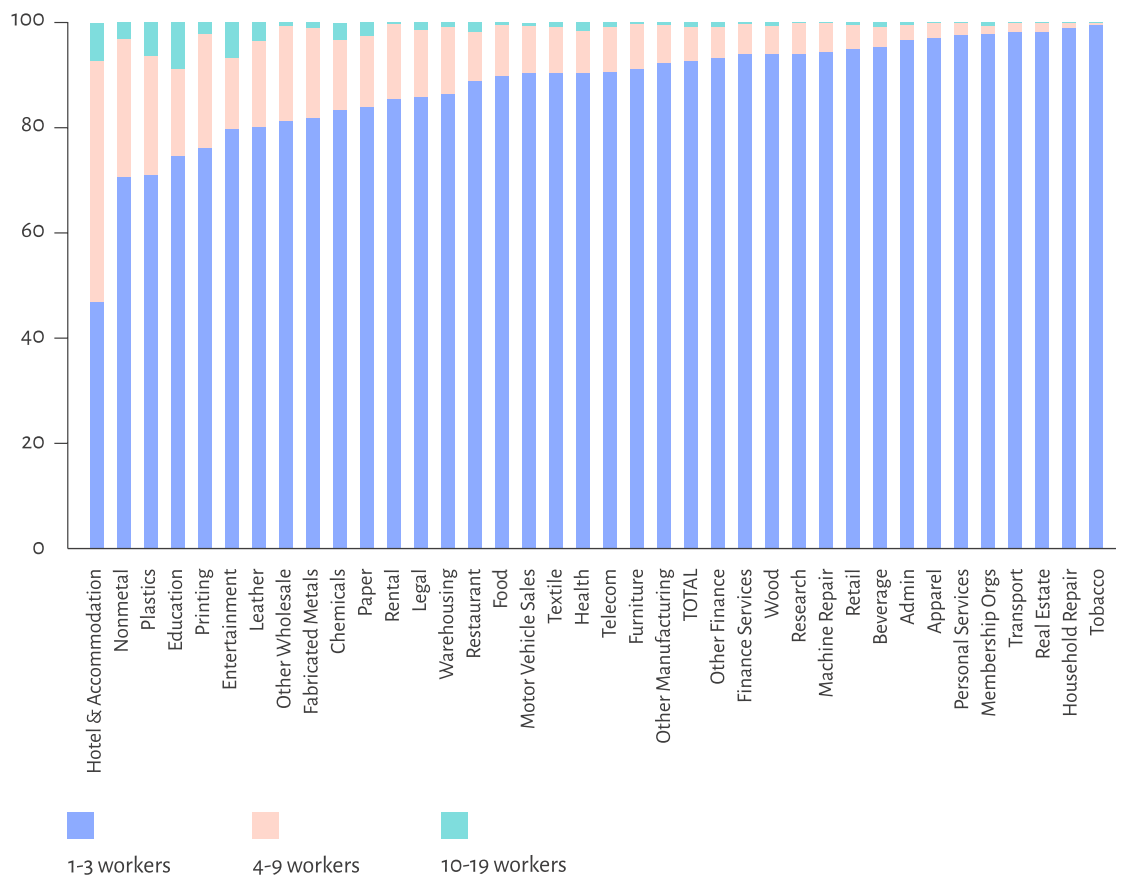
Next, we take a look at the growth rate of key variables across size classes. Table 3 shows the CAGR for output, employment, productivity and wages. As noted earlier, the number of enterprises, as well as the number of workers, increased only at the lower end of the size spectrum during the reference period of five years. The two largest size classes show a decline in both the number of enterprises and the number of workers. On the employment front, there is an alarming 5 per cent annual decline in workers in the largest size class. Of course, the size of the CAGR is partly due to a low base effect, but nonetheless such a decline is not good from the point of view of productivity. On the other hand, GVA per firm and GVA per worker both increased much faster for the larger firms. Labour productivity grew at a CAGR of 7 per cent to 7.5 per cent in real terms in the smallest size classes but at a much faster rate of 12.7 per cent for the largest size class. Wages, in contrast, grew faster in the smaller size classes.

**Table 3: Growth of employment, output, productivity, and wages across size classes**

CAGR	1	2-3	4-5	6-9	10-19
Number of firms	1.97	0.70	0.66	-3.07	-6.55
Number of workers	1.97	1.05	0.65	-2.94	-5.56
Number hired	-	2.90	1.51	-0.23	-1.08
Aggregate GVA	9.38	8.68	9.25	6.39	6.42
GVA per firm	7.27	7.92	8.54	9.76	13.87
Wage Rate	-	4.63	4.72	2.81	3.52
Labour Productivity	7.27	7.55	8.55	9.62	12.68

Sources and Notes: Authors' calculations based on NSS 67th and 73rd round unit level data. All values are CAGR (%).

**Figure 10: Size distribution of firms across industries in 2015**



Sources and Notes: Authors' calculations based on NSS 73rd round unit level data.

*"Tobacco, repair, retail, and apparel are large employers that consist almost entirely of tiny enterprises. On the other hand, food, textiles, healthcare, and even more so education, chemicals, and plastics are relatively large in scale."*

*"The fact that there is such wide variation in labour productivity with such small variation in number of workers indicates the importance of capital inputs, the nature of output and infrastructural support."*

Finally, we ask a question about how various industries differ from each other as far as the scale of operation is concerned. Apriori, we know that some industries such as personal services or retail are dominated by the smallest enterprises. Figure 10 shows the distribution of size classes within each industry. The five classes have been collapsed into three for ease of visibility (one to three workers, four to nine workers, 10 to 19 workers). Tobacco, repair, retail, and apparel are large employers that consist almost entirely of tiny enterprises. On the other hand, food, textiles, healthcare, and even more so education, chemicals, and plastics are relatively large in scale. Recall from our earlier analysis that health and education had also emerged as industries which had performed well. As we show later, women entrepreneurs have also posted a good performance in these two industries.

### 3.4 / An analysis of state-level variation

As we saw earlier, based on data from the Economic Census, there is large variation across states in the scale of operation. We now use NSS data to analyse the performance of the microenterprise sector across the major states of India. The states for which analysis has been done are listed in the Appendix. The northeastern states are combined into one (designated by the acronym 'NE' in figures) for reasons of sample size.

Figure 11 (a to d) shows the levels of GVA per firm, labour productivity, wage rate, and workers per firm across states in 2015. Delhi stands out as the state with the highest level of productivity but Kerala, Himachal Pradesh, Gujarat, and Maharashtra have higher wages. Wage rates vary from a low of ₹4000 per month in Assam to ₹10,000 in Kerala. As expected the labour surplus states of the north and the east (UP, Bihar, West Bengal, Odisha) rank at the bottom in terms of labour productivity as well as wages. The southern and western states are all above average. The labour productivity graph clearly shows the necessity of interventions in the northern and eastern states. Note that the all-India level ('IND') is pulled significantly downwards because the low productivity states are also relatively larger contributors to the workforce and to the total number of firms.

There is much less variation in firm size with most states in the 1.5 to 2 workers per firm range, only the city-state of Delhi exceeding the two worker threshold. This once again underlines the preponderance of very small micro-entrepreneurs across the country. But on the flip side, the fact that there is such wide variation in labour productivity and per firm value-added with such small variation in number of workers indicates the importance of capital inputs as well as other factors such as the nature of output (whether high or low value added goods are produced) and infrastructural support.

**Figure 11: GVA per firm, labour productivity, wage rate and number of workers per firm state-wise in 2015**

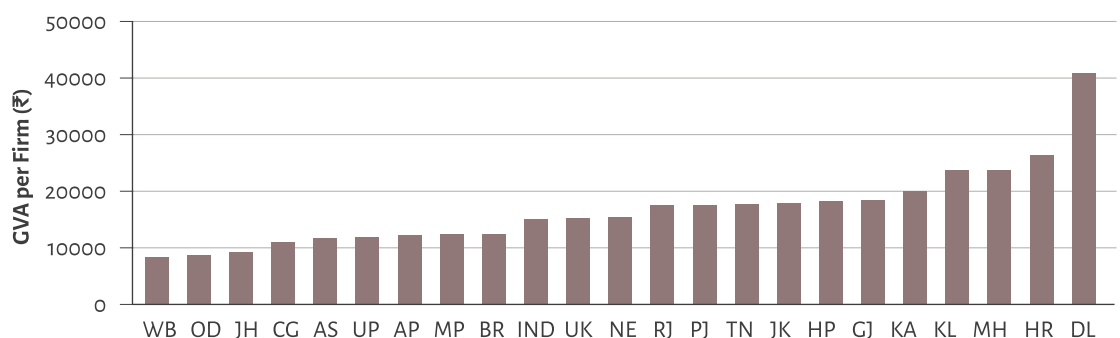
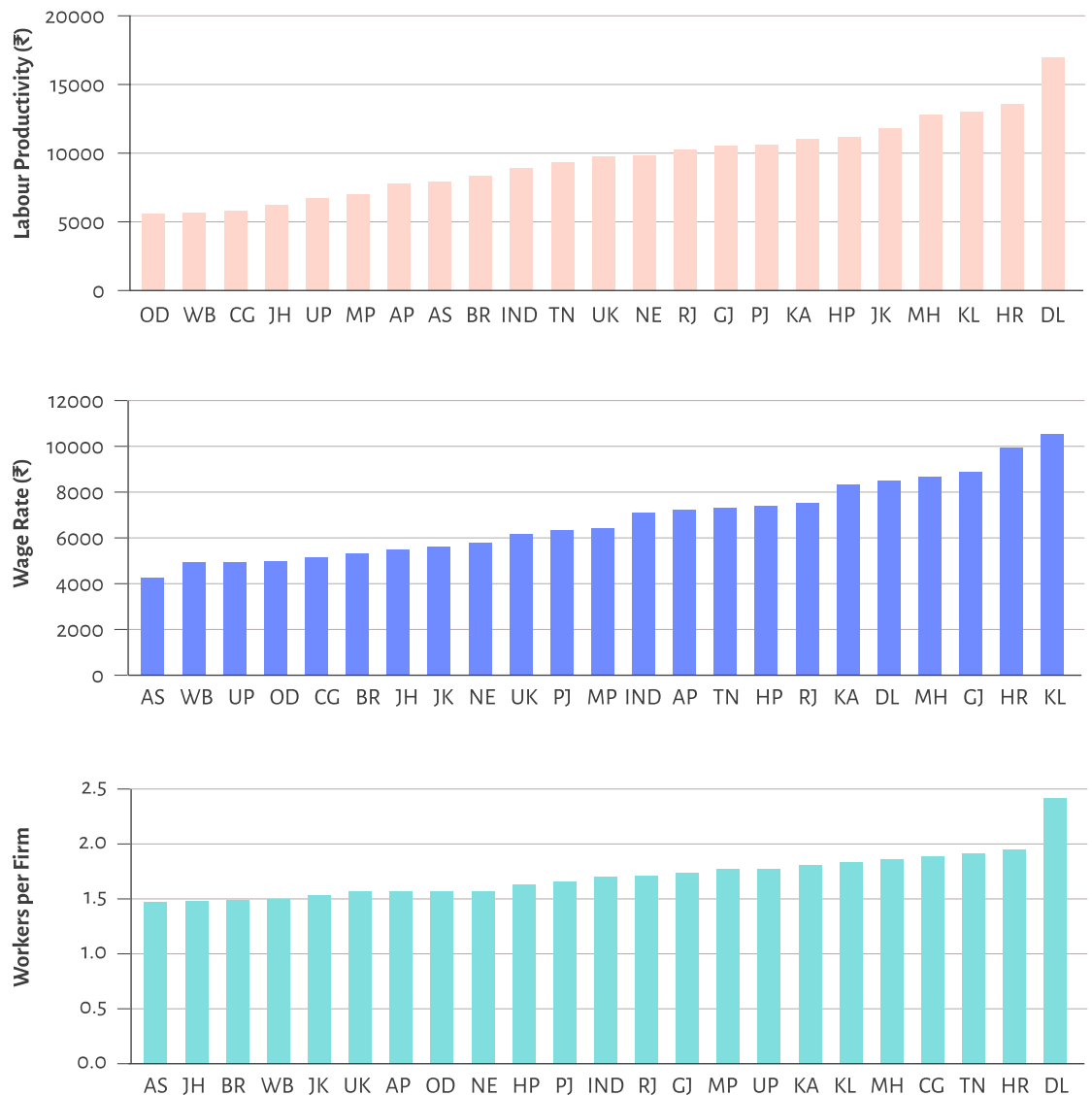


Figure 11, continued.

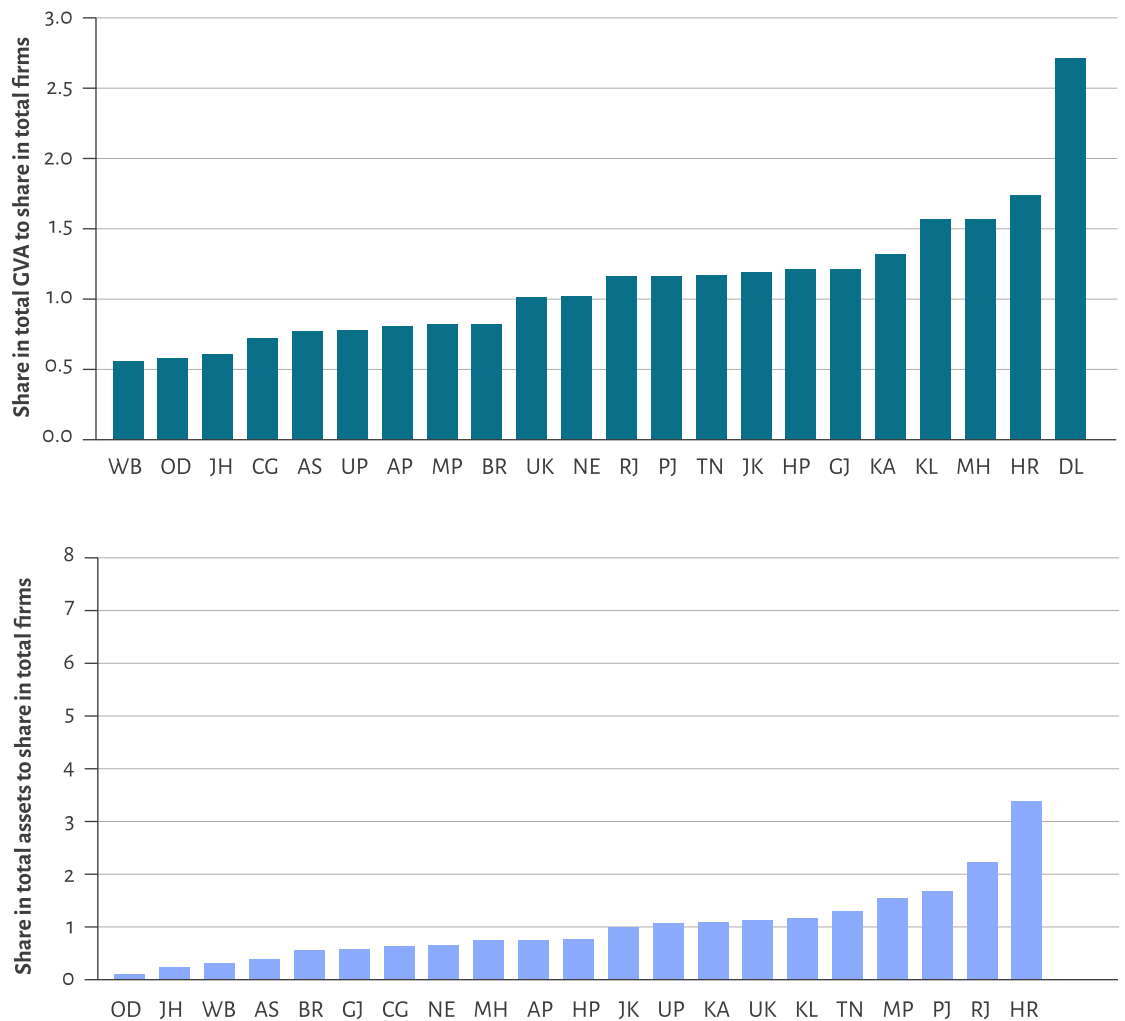


Source and Notes: Authors' calculations based on NSS 73rd round unit level data.

*"Delhi contributed six times more to total assets than its share in the number of firms. On the other hand, West Bengal accounts for 13.5 per cent of all enterprises but only 4.3 per cent of assets."*

Another measure of state-level performance is presented in Figure 12. Here we calculate the ratio of two shares. On the top, we show the ratio of the share of a state in total GVA produced to its share in the total number of firms estimated. On the bottom, the same is done for asset share. Thus if a particular state accounted for the same share of GVA or assets as its share of firms, this ratio would be one. A ratio higher than one indicates that the firms in the state contributed more than their 'fair share' of GVA or own more than their 'fair share' of assets. Thus Delhi contributed two and a half times as much to GVA as it did to the number of firms and fully six times more to total assets. This reconfirms the relatively larger size (as measured by assets) and greater productivity of Delhi-based firms. At the other end West Bengal, Odisha, and Jharkhand with a ration near 0.5 indicate the preponderance of low productivity firms in these states. The contrast is even starker in asset ownership with the ratio falling to 0.1 for Odisha. That is this state accounts 3 per cent of total firms across the country but only for 0.3 per cent of assets. Similarly, West Bengal, another low ranking state, accounts for a large 13.5 per cent of all enterprises but only 4.3 per cent of assets. On the other hand, Rajasthan accounts for 4.3 per cent of firms but 9.5 per cent of assets.

**Figure 12: States ordered by share in total GVA (top) and assets (bottom) to share in total firms**



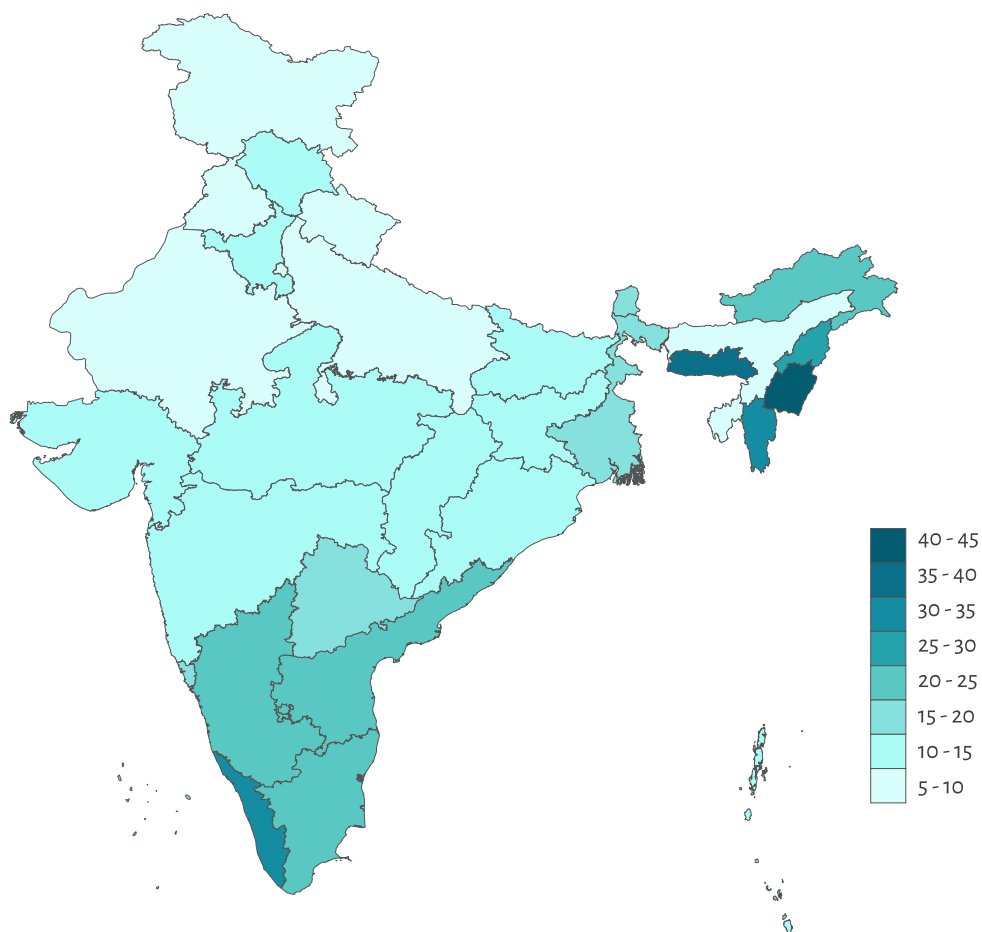
Source and Notes: Authors' calculations based on NSS 73rd round unit level data.

## 4. Women and Microenterprise

### 4.1 / Patterns of female entrepreneurship

As per Economic Census data, women owned 14 per cent (around eight million) of all enterprises in India in 2013-14, with 65 per cent of these being in rural areas. But the share of women-owned enterprises varies widely across the country. Figure 13 shows a heat map of women-owned enterprises as a share of total enterprises. These data enable us to identify which states are performing better in ensuring representation of women. The pattern is striking, though largely expected based on previous findings. The northeastern states lead the way in coming close to gender parity. Manipur has the highest percentage of women owned enterprises (38 per cent), followed by Meghalaya (28 per cent) and Mizoram (28 per cent). They are followed by the southern states. The worst performers, with a female share in the 5-10 per cent range are Rajasthan, UP, Uttarakhand, Punjab, Jammu and Kashmir, and Assam. Surprisingly, Tripura has only 6 per cent of enterprises that are owned by women, and is the lowest in the country along with J&K, followed closely by Punjab, UP and Assam at 7 per cent.

**Figure 13: Percent firms with female owners across states**



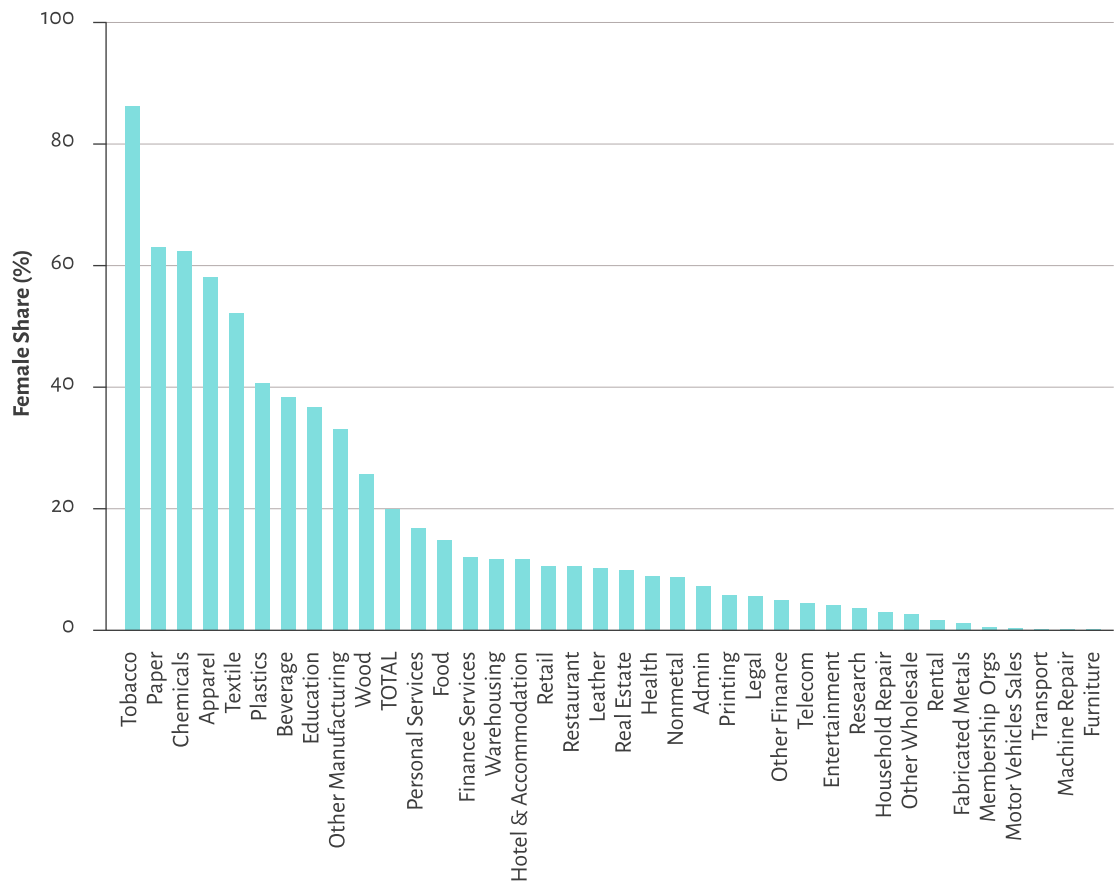
Sources and Notes: Authors' calculations based on Sixth Economic Census unit level data

*"In 2015, women-owned firms accounted for 20 per cent of all enterprises, 16 per cent of all workers, and 9 per cent of aggregate value-added in the microenterprise sector. Between 2010 and 2015, the share of enterprises and GVA for women did not increase. And there was a fall in the worker share from 18 per cent to 16 per cent."*

In 2015, as per NSS data, women-owned firms accounted for 20 per cent of all enterprises, 16 per cent of all workers, and 9 per cent of aggregate value-added in the microenterprise sector.<sup>9</sup> Between 2010 and 2015, the share of enterprises and GVA for women did not increase. And there was a fall in the worker share from 18 per cent to 16 per cent. While on average 20 per cent of all enterprises were women-owned, this share varies widely across industries (Figure 14). Industries such as tobacco and apparel are well known for being female dominated.<sup>10</sup> Industries that have more than the average share of women owners are tobacco, paper and paper products, chemicals, apparel, textiles, plastics, beverages, education, misc. manufacturing, and wood products. On the other hand women entrepreneurs are under-represented in some key industries such as food (14.9 per cent), retail (10.5 per cent), and health (9 per cent). And they are practically absent in industries such as transport (0.23 per cent) and furniture (0.2 per cent).

The Economic Census data contain two other parameters on which the nature of female entrepreneurship can be assessed, viz. the number of wage workers hired by a firm, and whether the firm is home-based or operates out of a commercial space. These are important because, other things being equal, they indicate a more mature level of entrepreneurship. They are also obviously significant from the perspective of job creation.

**Figure 14: Percent firms with female owners across industries**



Source and Notes: Authors' calculations based on NSS 73rd round unit level data.

The vast majority of male and female-owned enterprises do not employ wage workers, but rather consist of only a single working owner or an owner alongside unpaid family workers. But the scale of operation tends to be smaller for women than for men. For example, the proportion of women-owned enterprises that hire three or more workers is a mere 2.7 per cent (only 45,000 hire between six to nine workers, and 25,000 hire more than 10). For men the comparable numbers are 6.3 per cent, 500,000 and 233,000.

The total number of workers employed by women-owned enterprises in 2013-14 was 13.4 million of which 77 per cent were female, exhibiting a high tendency for women to work with other women. Manipur (91 per cent) and Kerala (90 per cent) are at the high end but even the states at the lower end such as Gujarat (69 per cent), Arunachal Pradesh (69 per cent), UP (70 per cent), Uttarakhand (66 per cent), still show a high probability of women owners employing women workers. In general, across male and female-owned enterprises, Mizoram has the highest percentage of women employed (42 per cent), followed by Manipur (40 per cent) and Kerala (37 per cent). Bihar (9 per cent women-owned enterprises, and 17 per cent of those employed are women) and Haryana (11 per cent women-owned enterprises, and 17 per cent of those employed are women) do poorly on both metrics.

Interestingly, of the 13.4 million workers employed by women entrepreneurs, 3.1 million were formal workers as per the Economic Census definition. As expected, home-based enterprises employ more informal workers (89 per cent) while enterprises operating out of commercial premises employ an almost equal number of formal and informal workers on average. Home-based enterprises also tend to employ more women workers (83 per cent) than commercial-premise-based enterprises (67 per cent).

## 4.2 / Women-owned enterprises based in commercial premises

The majority of women-owned enterprises were home-based (78 per cent). But the 22 per cent of women-owned firms operating out of a commercial premise are of special interest. Table 4 shows the distribution of such women-owned firms based outside the home with respect to the number of wage workers. Nearly 43 per cent of such firms hired at least one worker. This is in contrast to the overall dominance of firms with either no paid or unpaid workers, or only unpaid (family) workers.

Some districts stand out for showing a larger concentration of commercial-premise-based enterprises. Districts with more than 20,000 such enterprises are concentrated in West Bengal (North 24 Parganas tops the country at 38,000, followed by Bardhaman, Murshidabad, and Purba Medinipur). Notable amongst metros is Chennai at 34,000, with Pune, Ahmedabad and Bangalore around the 23,000 mark, and Tirunelveli at 20,000.

**Table 4 : % women-owned enterprises in commercial premises by number of hires and rural/urban presence**

	No Hire	1-2 hire	3-5 hire	6-9 hire	10+hire
Number of enterprises	1057132	630774	101733	32536	22032
Share in total (%)	57.3	34.2	5.5	1.8	1.2
% Rural	59	49	28	36	36

Sources and Notes: Author's calculations based on 6th Economic Census unit level data

While commercial premise-based women-owned enterprises employ an almost equal number of formal and informal workers on an average, some states exhibit wide variation, showing either more or less formal employment (Table 5). Notable amongst these is West Bengal which otherwise does well on most indicators for women-owned enterprises. Rural India predictably shows a higher share of informal employment (59 per cent) compared with urban India (46 per cent).

**Table 5: Number of formal and informal workers in women-owned firms operating outside the home**

	Informal	Formal	Formal as % of total
Haryana	26	51	66.2
Telangana	68	105	60.7
Punjab	44	61	58.1
Karnataka	135	183	57.5
Gujarat	143	170	54.3
Tamil Nadu	321	262	44.9
Orissa	62	45	42.1
Bihar	106	76	41.8
Meghalaya	24	16	40.0
West Bengal	316	122	27.8
Manipur	14	4	22.2
Tripura	7	2	22.2

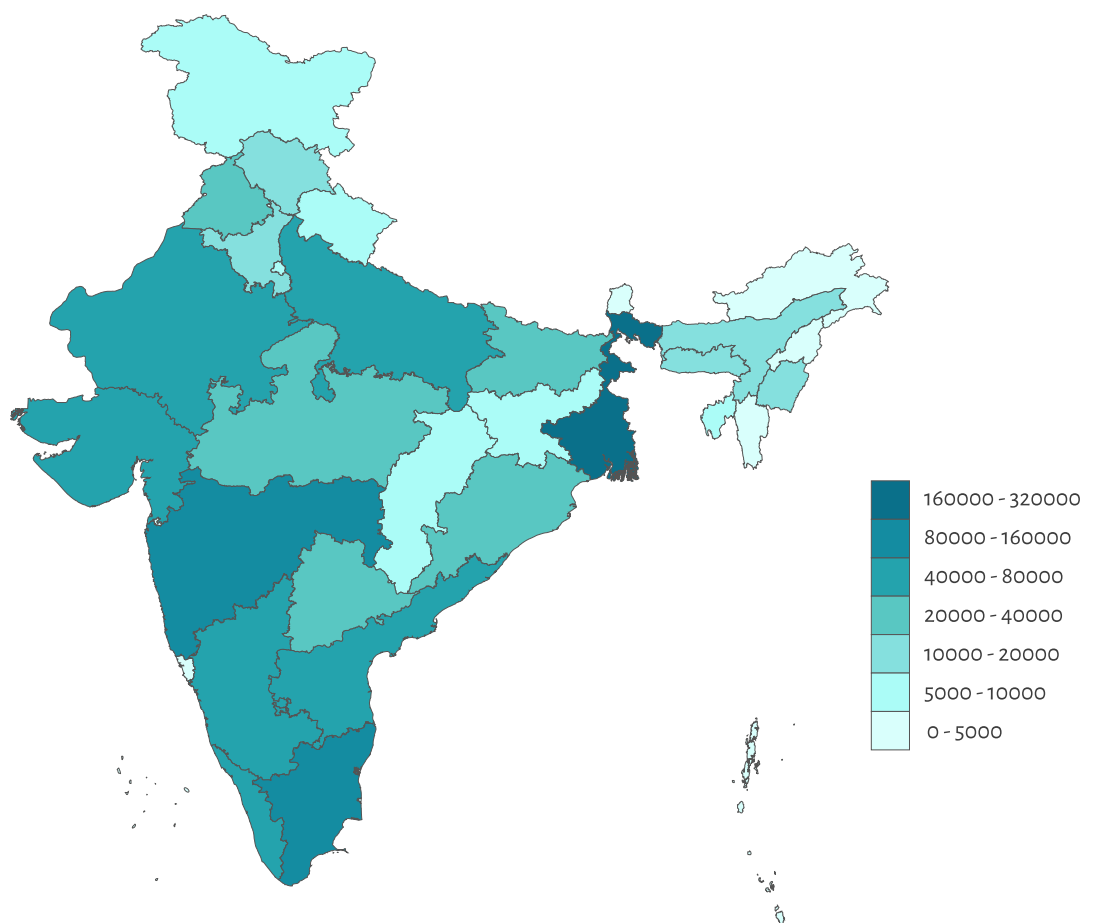
Sources and Notes: Author's calculations based on 6th Economic Census unit level data. Figures in thousands.

We also investigated the pattern of women-owned firms operating in commercial premises by the size of the establishment. In the category of firms that operate without any hired workers, West Bengal leads with around 200,000 enterprises. It is followed by Maharashtra (122,000) and Tamil Nadu (111,000). UP and the other southern states follow in terms of size at around 68,000 (Figure 15a). In the next category (one to two hired workers) Tamil Nadu far exceeds the other states with 129,000 such women-owned enterprises (led by Chennai and Coimbatore districts), followed by Gujarat (66,000). The next set of states are UP, Andhra Pradesh, Madhya Pradesh and Maharashtra ranging between 44,000 and 38,000 (Figure 15b).

Maharashtra leads in the category of firms with three to five hired workers with 14,000 enterprises (of which 86 per cent are urban contributed largely by Mumbai Suburban, Thane, Pune, Mumbai districts) followed by West Bengal at 9,000 of which 71 per cent are urban comprised of Kolkata, Bardhaman, and North 24 Paraganas (Figure 15c). Finally, in the six to nine hired workers category, Maharashtra (Pune, Thane, Mumbai Suburban, Mumbai districts) and West Bengal states (Kolkata, Bardhaman, Murshidabad, North 24 Parganas districts) have the largest number of women-owned commercial enterprises. This is followed by Uttar Pradesh (Lucknow, Agra and Kanpur districts) and Karnataka (Bangalore). Mumbai and Mumbai suburban have the highest concentration of such enterprises, with Bangalore and Kolkata following respectively. Though Chennai showed the largest number of women-owned enterprises using a commercial premise amongst metros (and second largest in the country), it is comparably lower in this category of hiring six to nine workers (Figure 15d).

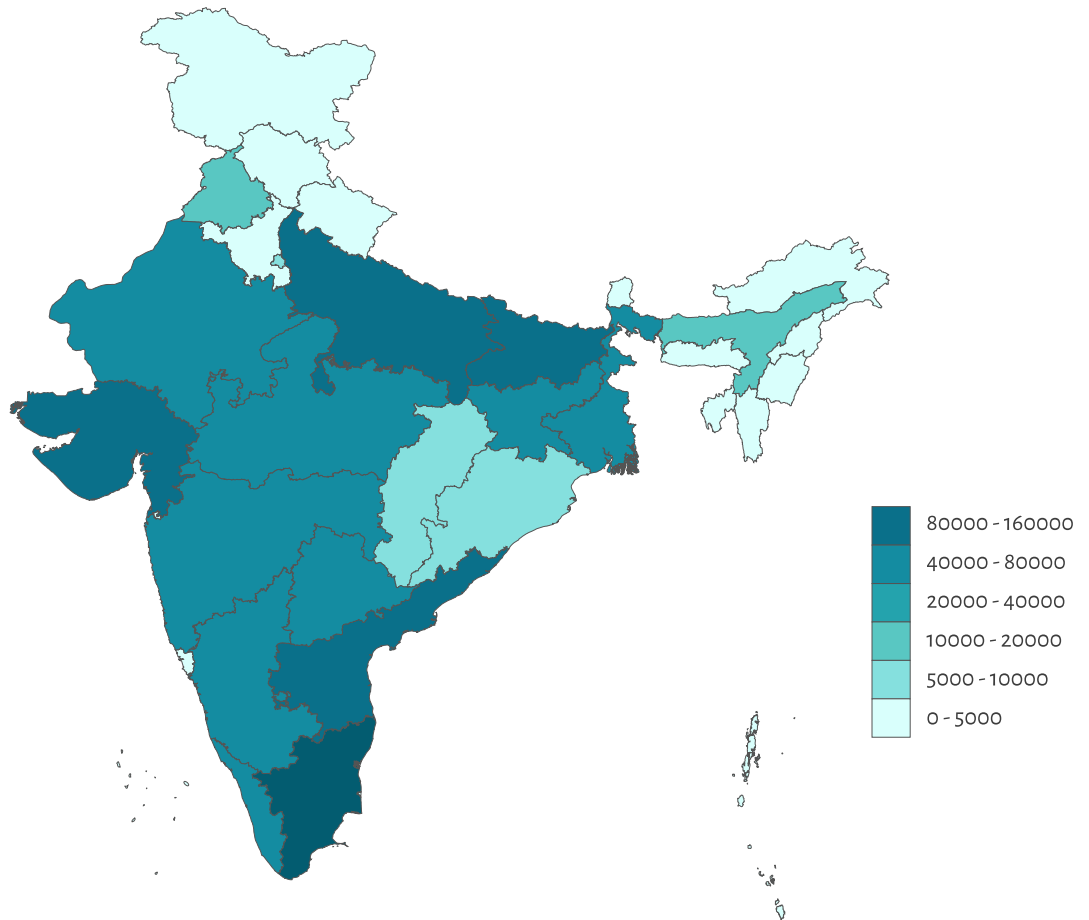
**Figure 15: Number of women-owned enterprises operating in commercial premises across India.**

15.a: No hired workers

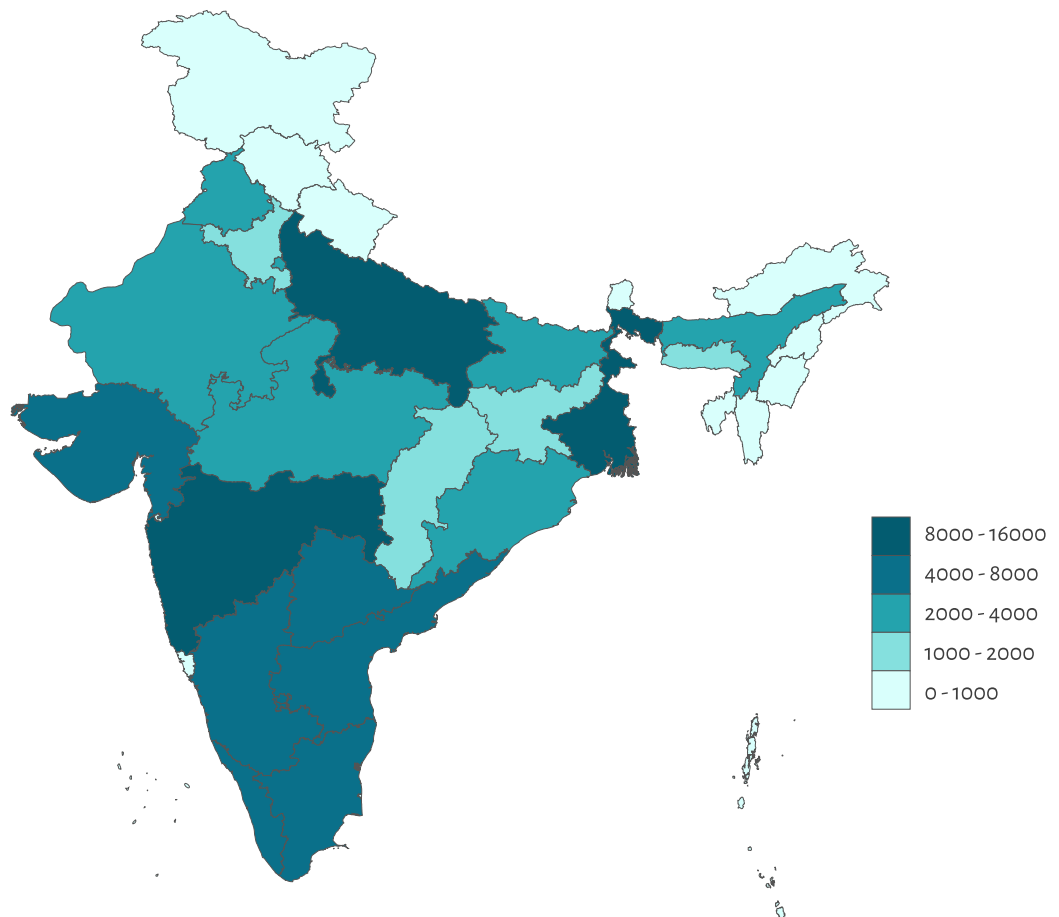




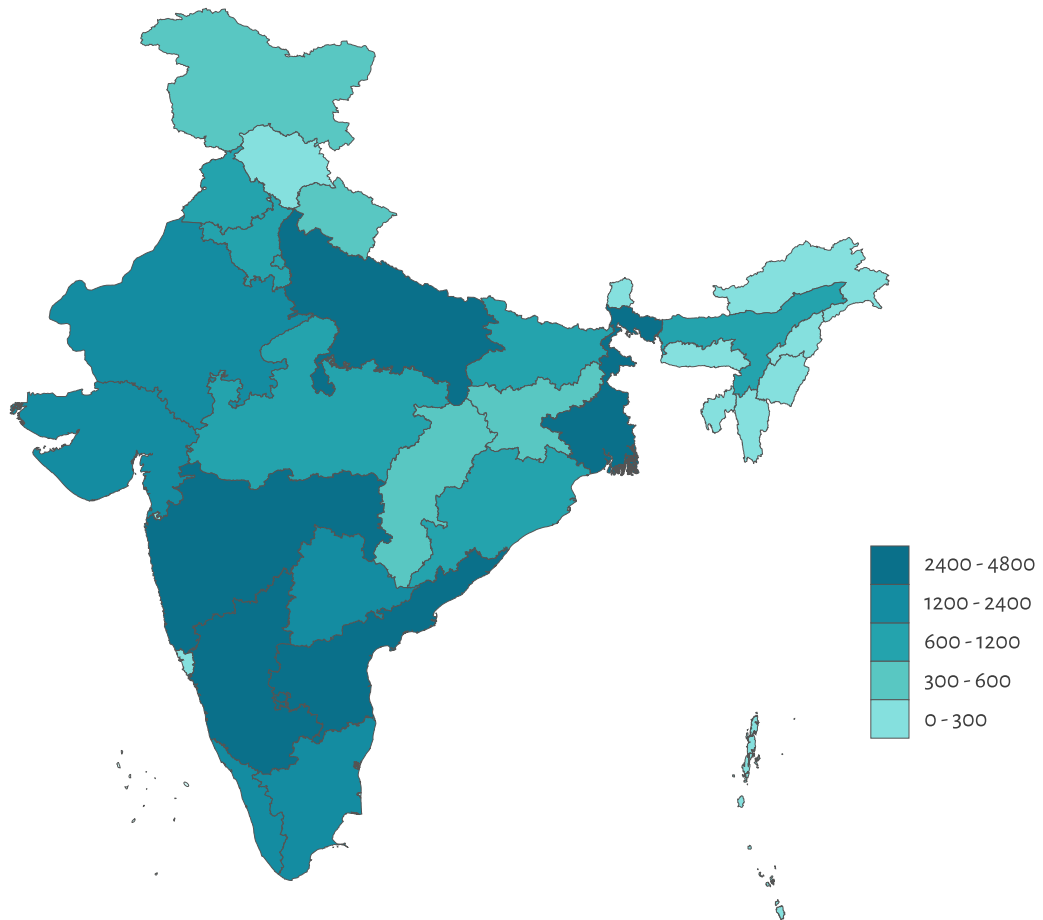
15.b: 1-2 hired workers



15.c: 3-4 hired workers.



## 15.d: 6-9 hired workers



Sources and Notes: Authors' calculations based on Sixth Economic Census unit level data

*"In 2015 ten industries accounted for just over 90 per cent of all female-owned firms in urban India: apparel, retail, tobacco, textile, personal services, education, misc. manufacturing, restaurants, food, and health. Except for wood, which replaces healthcare, the list is identical for rural India."*

### 4.3 / Gendered patterns of entrepreneurship and performance gaps

We now analyse the performance of male and female-owned firms separately for rural and urban India. Table 6 shows the distribution of ownership across industries for male and female entrepreneurs for rural and urban India. That is, it shows, for every 100 male or female owners how many are likely to be in which industry. The industries have been ordered in declining importance of female ownership. Thus, tobacco tops the list in rural India, while apparel does so in urban India.

In 2015 ten industries accounted for just over 90 per cent of all female-owned firms in urban India. These were apparel, retail, tobacco, textile, personal services, education, misc. manufacturing, restaurants, food, and health. Of these apparel, retail, tobacco, textile, and domestic services are the top five accounting for 75 per cent. As in urban India, in 2015, ten industries accounted for just over 90 per cent of all female-owned firms in rural India. These are apparel, retail, tobacco, textile, personal services, education, misc. manufacturing, restaurants, food, and wood. Except for wood, which replaces healthcare, the list is identical for urban and rural India.

The comparison with the pattern of male entrepreneurship, provided in the same table, is also instructive. For example, apparel accounts for 28 per cent of all female-owned firms, but only for 4.3 per cent of male-owned firms. On the other hand, transport accounts for 9.4 per cent of all male-owned firms, but a mere 0.08 per cent of female-owned firms. In general, women and men tend to be in different industries, except for retail, which is a large employer for both genders. Lastly, notice that the pattern of male entrepreneurship is much more diversified than female entrepreneurship.

**Table 6: Distribution of firms across industries for male and female entrepreneurs in urban and rural India, 2015**

Rural			Urban		
Industry	Male	Female	Industry	Male	Female
Tobacco	1.16	30.46	Apparel	4.3	28.09
Apparel	4.88	23.79	Retail	37.19	20.59
Retail	37.33	15.39	Tobacco	0.53	10.04
Textile	2.28	11.54	Textile	2.67	9.97
Wood	2.95	4.14	Personal Services	4.25	6.52
Food	5.24	3.01	Education	1.63	6.16
Restaurant	5.19	2.09	Other Manufacturing	1.73	3.61
Personal Services	5.25	1.85	Restaurant	5.84	3.31
Other Manufacturing	0.79	1.67	Food	2.66	2.51
Education	1.34	1.42	Health	2.04	1.36
Beverage	0.36	0.9	Real Estate	2	1.04
Chemicals	0.14	0.66	Paper	0.13	0.91
Plastics	0.03	0.56	Chemicals	0.08	0.8
Household Repair	4	0.49	Nonmetal	0.47	0.61
Nonmetal	1.85	0.32	Other Wholesale	5.07	0.57
Health	1.78	0.32	Household Repair	4.51	0.55
Other Wholesale	2.25	0.27	Wood	0.7	0.52
Real Estate	0.77	0.27	Admin	0.97	0.33
Paper	0.03	0.25	Legal	1.01	0.29
Admin	0.39	0.13	Leather	0.49	0.27
Transport	12.83	0.12	Plastics	0.27	0.23
Finance Services	0.07	0.08	Hotel & Accommodation	0.32	0.21
Rental	1.36	0.07	Research	0.76	0.19
Fabricated Metals	1.23	0.04	Beverage	0.11	0.19
Entertainment	0.51	0.03	Finance Services	0.34	0.16
Telecom	0.2	0.02	Printing	0.55	0.15
Printing	0.08	0.02	Entertainment	0.35	0.14
Legal	0.13	0.02	Warehousing	0.2	0.13
Leather	0.08	0.02	Fabricated Metals	1.95	0.12

Table 6, continued.

Rural			Urban		
Industry	Male	Female	Industry	Male	Female
Motor Vehicle Sales	1.43	0.01	Rental	0.98	0.11
Warehousing	0.04	0.01	Telecom	0.3	0.09
Research	0.45	0.01	Motor Vehicle Sales	3.62	0.08
Hotel & Accommodation	0.06	0.01	Transport	9.39	0.08
Furniture	2.29	0.01	Membership Orgs	0.24	0.02
Membership_Orgs	0.68	0	Furniture	1.31	0.02
Machine Repair	0.52	0	Other Finance	0.1	0.02
Other Finance	0.02	0	Machine Repairs	0.96	0.01
TOTAL	100	100	TOTAL	100	100

Sources and Notes: Authors' calculations based on NSS 73rd round unit level data.

*"In urban India gross value-added per firm for female entrepreneurs was only 46 per cent of male-owned firms, labour productivity was 62 per cent and assets owned 40 per cent. The corresponding ratios for rural India are 35 per cent, 44 per cent and 43 per cent."*

Large gender gaps are observed in firm performance. In urban India gross value-added per firm for female entrepreneurs was only 46 per cent of male-owned firms, labour productivity was 62 per cent and assets owned 40 per cent. The corresponding ratios for rural India are 35 per cent, 44 per cent and 43 per cent. The actual rupee amounts are given in Table 7. One question worthy of future research regarding these large and worrying gender gaps is, to what extent women are at a disadvantage due to poor endowments or discrimination within an industry, and to what extent their aggregate disadvantage is a result of being concentrated in a few unproductive industries (such as tobacco). We cannot address this question completely here, but we do offer an initial look.

Figure 16 shows the GVA per firm in a female-owned firm as a proportion of GVA per firm of male-owned firms for different industries. Industries are ordered in increasing order of female ownership share. If this ratio is equal to one, it indicates that on average male and female-owned firms are similarly productive. Of course, this is not the case in most industries. In urban India, for personal services and health, asset value (excluding land) per firm and GVA per worker (labour productivity) are comparable for women and men.

**Table 7: Key Ratios for male and female-owned firms in rural and urban India**

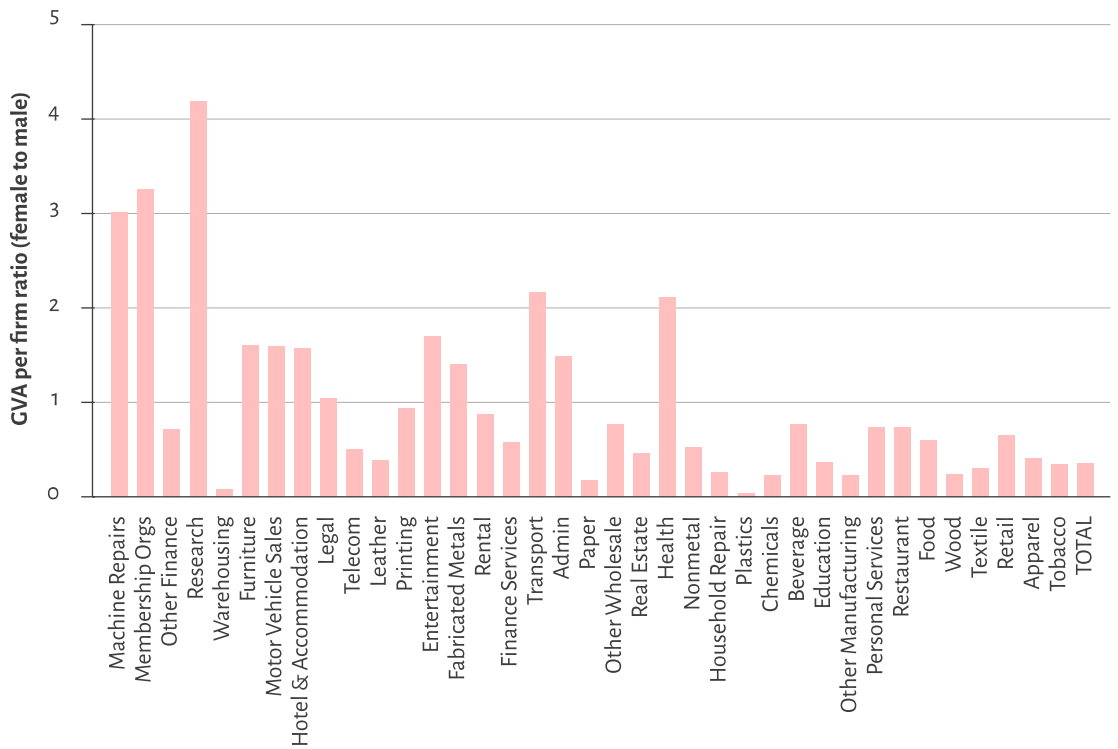
		Male	Female	Ratio
Rural	GVA per Firm (₹)	10274	3628	0.35
	Labour Productivity (₹)	6504	2873	0.44
	Assets per firm (₹)	137376	59133	0.43
Urban	GVA per Firm (₹)	23277	10665	0.46
	Labour Productivity (₹)	11645	7195	0.62
	Assets per firm (₹)	737435	292794	0.40

Sources and Notes: Authors' calculations based on NSS 73rd round unit level data.

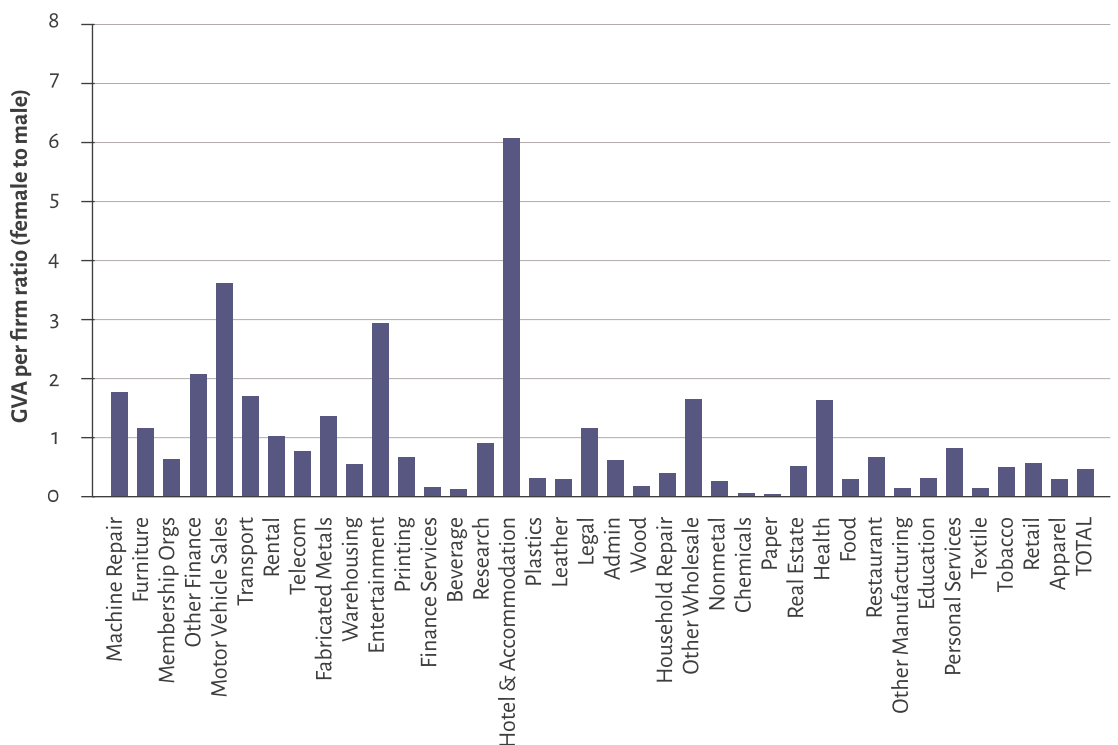
In textiles, apparel, food, and education, assets and productivity of female-owned firms are half or less than that of male-owned firms. In fact, we see that gender gaps are driven by industries where women entrepreneurs are concentrated. Industries with a large concentration of women owners such as tobacco, textiles, apparel, food, and retail, which appear towards the right side in the bar graph have much lower ratios than industries such as machine repair, furniture, and transport where women are very rare.

**Figure 16: Ratio of GVA per firm in female versus male owned firms**

**Rural India:**



**Urban India:**

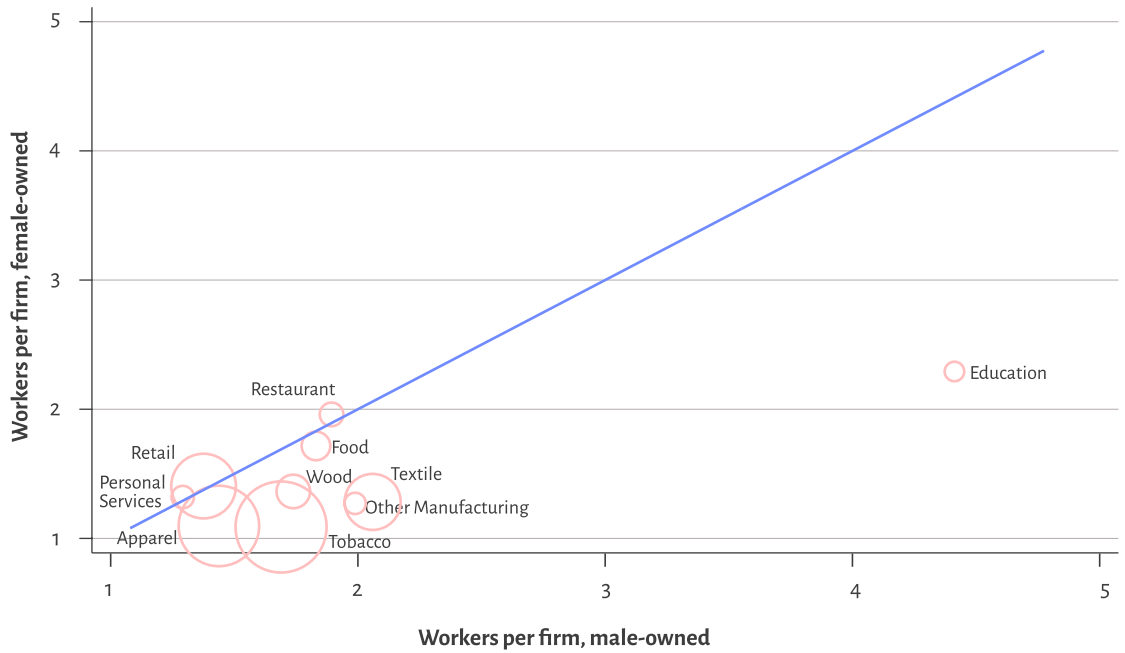


Source and Notes: Authors' calculations based on NSS 73rd round unit level data.

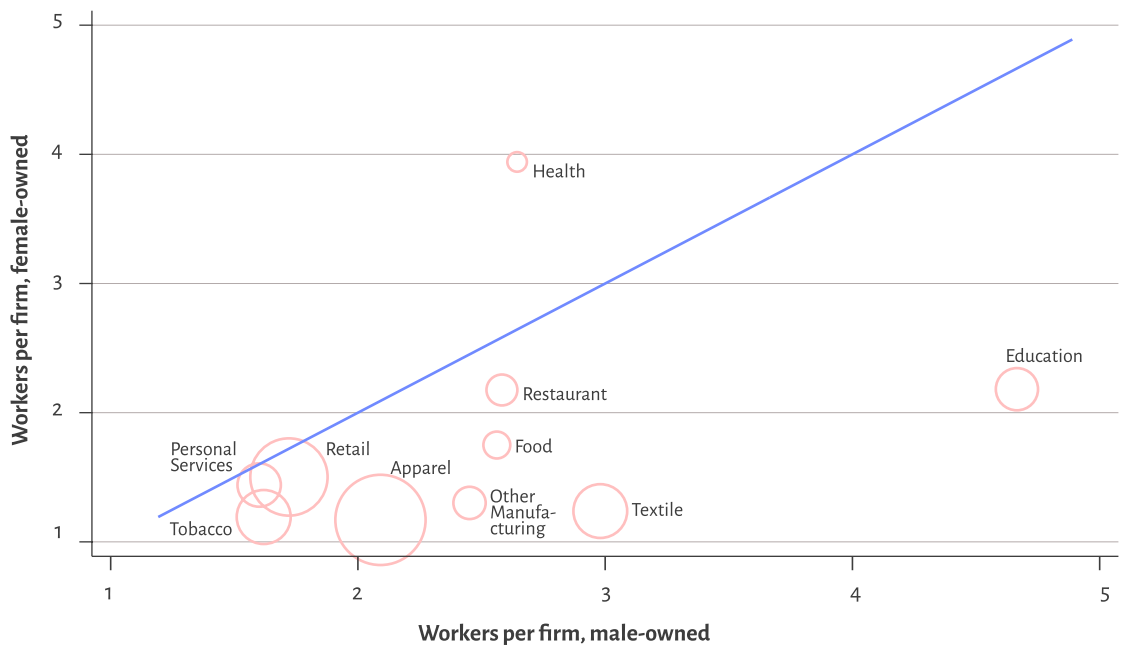
It is possible that the latter type of industries have higher barriers to entry and therefore consist of self-selected women entrepreneurs who perform as well or better than male ones. Relatedly, it is possible that women are punished for crowding into a few sectors that reduces their bargaining power and hence value-added. These observations give rise to two policy concerns. One, how to raise levels of female entrepreneurship in industries on the left side of the graph and two, how to raise levels of assets and productivity in those industries in which women tend to be concentrated. The first is crucial to reduce the crowding of women into few industries, particularly hazardous and unproductive ones such as tobacco.

**Figure 17: Average workers per firm, for male and female owners weighted by firm share for female-owners in 2015**

**Rural India:**



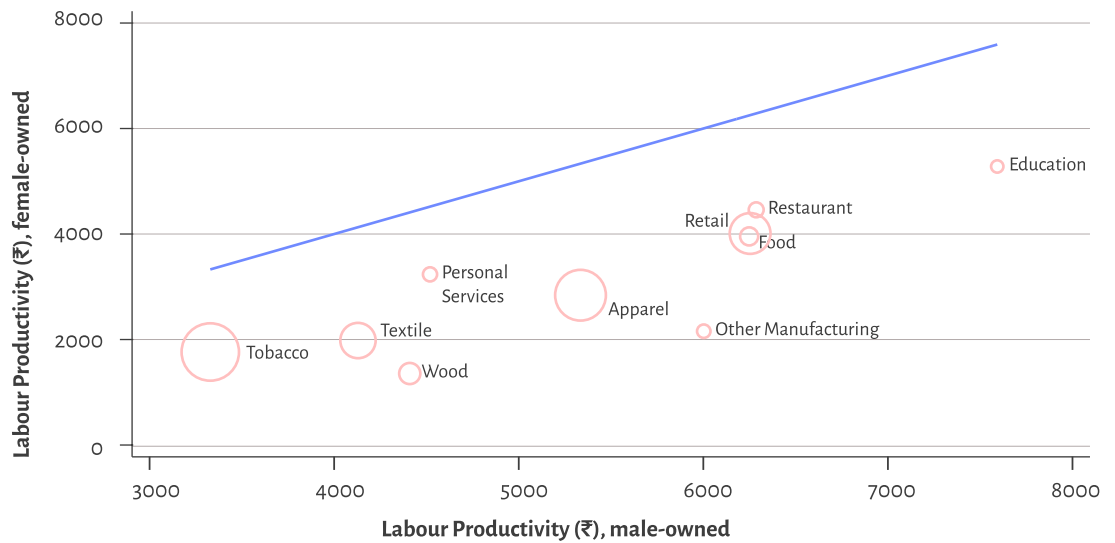
**Urban India:**



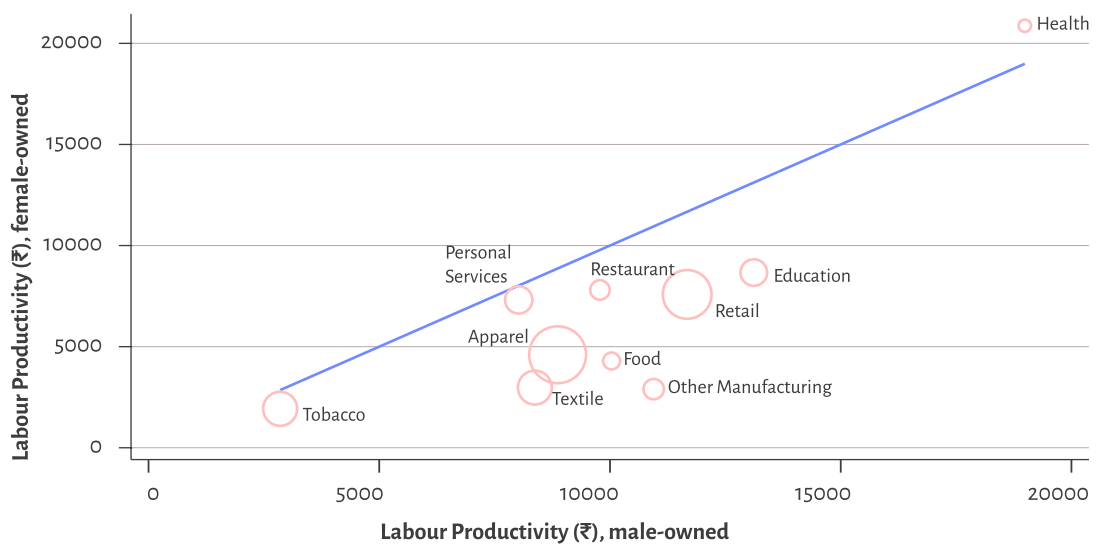
Source and Notes: Authors' calculations based on NSS 73rd round unit level data. Circle size indicates share of that industry among female entrepreneurs. Blue line is the line of equality.

**Figure 18: Labour productivity in male and female owned firms in 2015**

**Rural India:**



**Urban India:**



Source and Notes: Authors' calculations based on NSS 73rd round unit level data. Circle size indicates share of that industry among female entrepreneurs. Blue line is the line of equality.

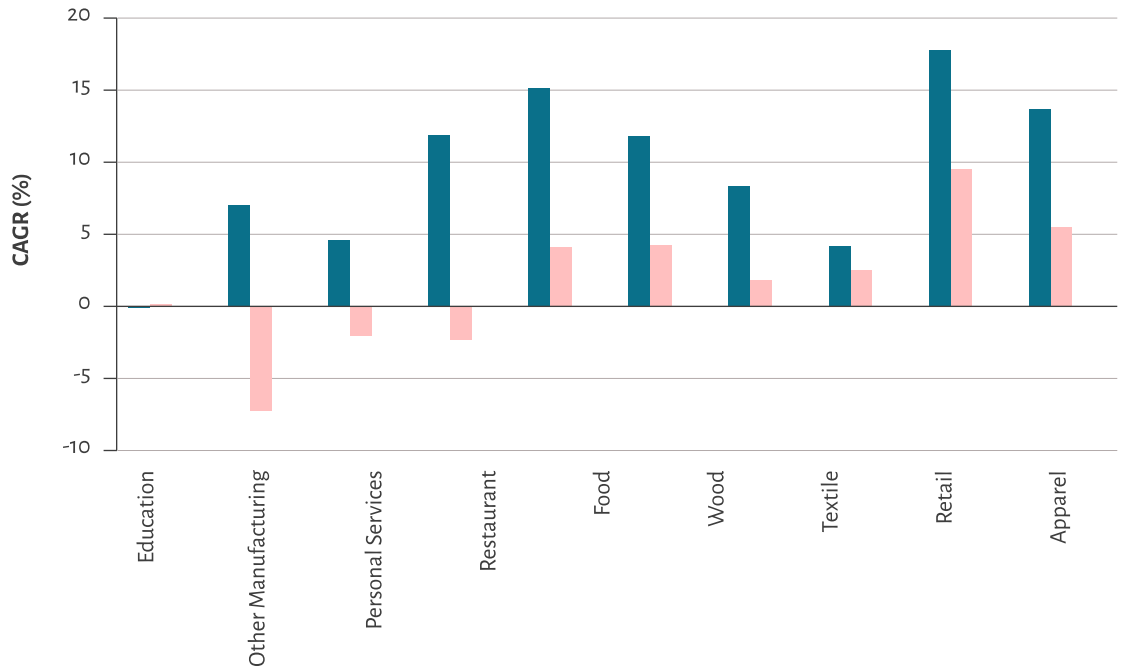
*"Health emerges as one of the most productive industries for urban women entrepreneurs with labour productivity of ₹20,751 per month. Apparel, food, and textiles have below average productivity in the range of 3000-4000 per month. Tobacco is the lowest at ₹1900 per month."*

Male-owned firms tend to be larger and more productive in all large employers such as apparel, retail, textiles, and education. The industries where female-owned firms look comparable to (or better than) male-owned firms tend to be tiny industries where female-ownership is very rare, to begin with (not shown on graph). The main exceptions are health and wholesale trade. These two industries stand out because female entrepreneurs in these industries are at least as productive as male entrepreneurs and they also account for at least one per cent of female-owned firms. The differences between male and female-owned firms are depicted in Figures 17 and 18 for two chosen indicators, the average number of workers (paid and unpaid) per firm and labour productivity. In all the top ten employers mentioned above the average number of workers per firms is just two for female-owned firms (except health where it reaches four). However, firm size is not that much larger for male-owned firms either, indicating an overall dominance of nano-entrepreneurs across all industries. For female entrepreneurs, only relatively smaller employers such as fabricated metals, hotels-accommodation, and wholesale trade have a total of 3.5 to 5.5 total workers (and 1.5 to 3.5 hired workers) per firm. Health is the only large employer of women entrepreneurs that also hosts relatively larger firms (3.8 total, 2.5 hired per firm). Notably, these industries with relatively larger sized female-owned enterprises also show relatively smaller differences in the performance of male versus female-owned firms.

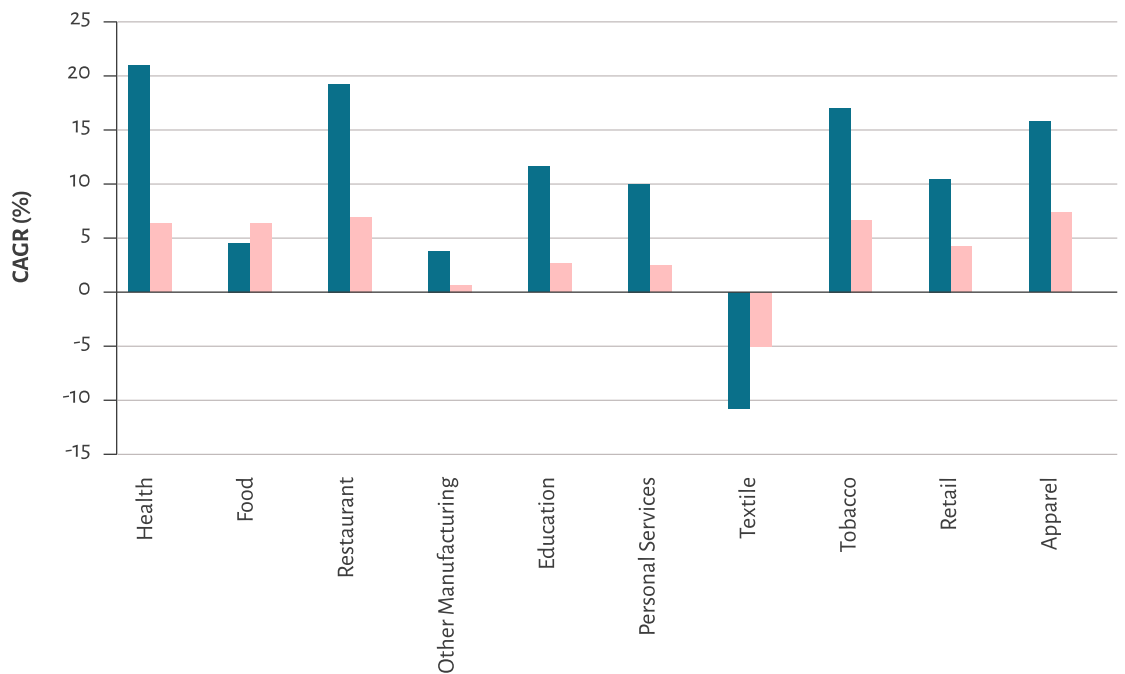
As expected health also emerges as one of the most productive industries for urban women entrepreneurs with labour productivity of ₹20,751 per month (2015 rupees) (see Figure 18). Large employers such as apparel, food, and textiles have below average productivity in the range of 3000-4000 per month. Tobacco, as expected from case studies shows one of the lowest labour productivities at ₹1900 per month. Retail, another top employer lies somewhere in between with ₹7500 per month labour productivity.

**Figure 19: GVA and Employment growth (CAGR, %) for women-owned firms**

Rural India:



Urban India :



■ Employment Growth      ■ GVA Growth

Source and Notes: Authors' calculations based on NSS 67th and 73rd round unit level data. Bars ordered by share of industry in female entrepreneurs.



Lastly we look at growth rates of GVA and employment in the key industries with large shares of female owners (Figure 19). Between 2010 and 2015, among women-headed firms, aggregate value-added grew at a CAGR of 5-15 per cent. Employment grew much more slowly and was even negative for some industries. Employment, as well as GVA growth, was much higher in urban India, with the exception of textiles which registered a decline in this period. The health industry, albeit accounting for just 1.4 per cent of all female entrepreneurs, has shown excellent performance in output, employment, and labour productivity.

## 5. Conclusion

*"Case studies of women entrepreneurs clearly show the importance of collective action, infrastructure, credit, knowledge of market opportunities and linkages in improving the returns to entrepreneurship. Inspirational stories are also emerging in the use of fourth industrial revolution technologies to improve access to markets and enter global value chains in a way that awards greater agency to women entrepreneurs."*

India needs to invest policy attention and resources to creating and developing microentrepreneurs who can be drivers of growth and shared prosperity. Currently these microenterprises create 11 per cent of jobs in India compared with 30-40 per cent of the jobs in both developed and developing countries.<sup>11</sup> There are significant barriers to growth and support for microenterprises including lack of aspiration, perception of risks, entrepreneurial mindset and skillset, access to finance, infrastructural constraints, absence of market linkages and mentoring; and the hurdles are even greater for women.

Case studies of women entrepreneurs clearly show the importance of collective action, infrastructure, credit, knowledge of market opportunities and linkages in improving the returns to entrepreneurship. Inspirational stories are also emerging in the use of fourth industrial revolution technologies to improve access to markets and enter global value chains in a way that awards greater agency to women entrepreneurs (Dave 2019; Barkatay 2019).

Our findings underscore the extent of inter-industry and inter-state variation in microenterprise performance. Valuable lessons for policymakers as well other actors may lie in the stories of success and failure. There is a need for collaboration to consolidate efforts and share best practices across value chains and geographies to accelerate development in this space. A key area for further research is thus to explore the factors that explain the such differences in performance. For example, controlling for overall level of per capita State Domestic Product, some states may show better administrative capacity and coordination with local governments. Some high-performing service industries such as healthcare and education need to be looked at more closely to see the kinds of opportunities that are opening up in them and how they can be expanded.

The findings also clearly show that India has thus far failed to increase the scale of the microenterprise sector substantially. While this report does not examine the constraints to firm expansion directly, other research has shown the importance of factors such as access to adequate amount of capital (as opposed to microloans which are plentiful), access to quality local infrastructure (such as operating space, local roads, water supply, and electricity), and access to markets. Skilling and access to technology are also important as is enabling (as opposed to punitive) regulation.

In agro-based as well as non-farm industries, India has deep reserves of skilled labour and entrepreneurial talent. Effectively leveraged this can grow into a large number of dynamic clusters producing culturally important commodities, with significant export potential. Recognising the importance of the sector, the government has been trying various models to foster the growth of MSMEs via initiatives such as cluster development programmes, Micro Units Development and Refinance Agency (MUDRA), entrepreneurship and skill development programmes, Government e-marketplace (GeM), Scheme of Fund for Regeneration of Traditional Industries(SFURTI), Trade Receivables Discounting System (TreDS) and so on. Much more needs to be done. In summary, the findings of the report underline the need for:

- Identifying how locally-proven models have become successful at scale and what form of collaboration between central, state and local governments and other stakeholders have worked.
- Addressing long-standing bottlenecks in access to finance and availability of local infrastructure.
- Fostering job-creating entrepreneurship rather than subsistence livelihoods which requires finance at workable scale rather than micro-loans.
- More gender-responsive models

Ecosystem stakeholders should work towards solving some of the larger issues such as:

- How can locally-proven models be successful at scale and what form of collaboration between the government and other stakeholders can work at all levels?
- How can stakeholders cover the gaps in developing mass entrepreneurship? Not more skilling but more financing and infrastructure, not more subsistence livelihoods but more job-creating growth entrepreneurship, more gender-responsive models, and more influencing during the early developmental years.
- And finally, keeping the entrepreneur at the center, how should the ecosystem work together to coordinate and align on all parts of the journey holistically, ensuring that s/he is seamlessly guided for an appropriate period of time, and does not fall through the cracks.

There is tremendous value to be gained from giving due policy attention to this segment of enterprise. We hope that the present study will foster much needed policy action, ecosystem partnership, as well as further research.

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## Endnotes

1. Based on ongoing research using Periodic Labour Force Survey data, by Paaritosh Nath and Amit Basole.
2. Sixth Economic Census, 2014
3. World Bank, World Development Indicators
4. Nasscom, Indian Start-up Ecosystem Maturing, 2016
5. GAME Landscape Resource 2019: [massentrepreneurship.org/summary](http://massentrepreneurship.org/summary)
6. For example see Basole et al (2015), Basole (2016), Bernhardt et al (2017), Chen et al (2006), Kesar and Bhattacharya (2019), Raj and Sen (2016, 2019), Unni and Naik (2018).
7. It should be noted here that NSS data usually under-estimate the absolute levels of economic activity including employment and value-added. Hence it is more useful to analyse shares, ratios, and growth rates rather than absolute levels.
8. One point to note is that the financial services industry experienced a large decline in employment over this period in both rural and urban India. It is not clear if this decline has economic significance or is a result of some artefact in data collection. In the microenterprise sector, this industrial classification is likely to include informal moneylenders. Thus this issue is worthy of further attention in future research but the industry has been excluded from subsequent analysis since it is an outlier.
9. The share of female entrepreneurs in total firms is higher in the NSS data as compared to the Economic Census. This is most likely because the NSS data are comprised almost entirely of microenterprises.
10. There are also some surprises in the list, such as chemicals (62.4 per cent female owners) and paper (63.1 percent female owners). However, these two industries account for a tiny fraction (less than 1 per cent) of female entrepreneurs.
11. US Census Bureau Data, 2014; Indian Economic Census, 2014

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# Appendix -A

## List of industries included in the study with their NIC 2008 codes

<b>NIC 200</b>	<b>Description</b>
10	Manufacture of food products (food)
11	Manufacture of beverages (beverage)
12	Manufacture of tobacco products (tobacco)
13	Manufacture of textiles (textile)
14	Manufacture of wearing apparel (apparel)
15	Manufacture of leather and related products (leather)
16	Manufacture of wood and products of wood and cork, except furniture (wood)
17	Manufacture of paper and paper products (paper)
18	Printing and reproduction of recorded media (printing)
20	Manufacture of chemicals and chemical products (chemicals)
22	Manufacture of rubber and plastics products (plastics)
23	Manufacture of other non-metallic mineral products (nonmetal)
25	Manufacture of fabricated metal products, except machinery and equipment (fabricated metals)
31	Manufacture of furniture (furniture)
32	Other manufacturing
33	Repair and installation of machinery and equipment (machine repair)
45	Wholesale and retail trade and repair of motor vehicles and motorcycles (motor vehicles sales)
46	Wholesale trade, except of motor vehicles and motorcycles (other wholesale)
47	Retail trade, except of motor vehicles and motorcycles (retail)
49	Land transport and transport via pipelines (transport)
52	Warehousing and support activities for transportation (warehousing)
55	Hotel and Accommodation
56	Food and beverage service activities (restaurant)
61	Telecommunications (telecom)
64	Financial service activities, except insurance and pension funding (finance services)
66	Other financial activities (other finance)
68	Real estate activities
69	Legal and accounting activities (legal)
72	Scientific research and development (research)
77	Rental and leasing activities (rental)
82	Office administrative, office support and other business support activities (admin)
85	Education
86	Human health activities (health)
90	Creative, arts and entertainment activities (entertainment)
94	Activities of membership organizations (membership orgs)
95	Repair of computers and personal and household goods (household repair)
96	Other personal service activities (personal services)

# Appendix -B :

## State Acronyms

AP	Andhra Pradesh
AR	Arunachal Pradesh
AS	Assam
BR	Bihar
CG	Chhattisgarh
DL	Delhi
GA	Goa
GJ	Gujarat
HP	Himachal Pradesh
HR	Haryana
JH	Jharkhand
JK	Jammu and Kashmir
KA	Karnataka
KL	Kerala
MH	Maharashtra
ML	Meghalaya
MN	Manipur
MP	Madhya Pradesh
MZ	Mizoram
NL	Nagaland
OD	Odisha
PB	Punjab
RJ	Rajasthan
SK	Sikkim
TL	Telangana
TN	Tamil Nadu
TR	Tripura
UK	Uttarakhand
UP	Uttar Pradesh
WB	West Bengal
IND	India

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