

Key Points

- In India, the female labor force participation rate is higher in rural areas than in urban areas.
- The distribution of jobs is highly skewed toward agriculture in the rural economy, which drives down wages for women workers.
- Low-earning, unpaid family work and own account work constitute the highest proportion of female employment in rural India, while urban areas have mostly higher-paying regular salaried jobs.
- Informal skill training does not lead to an increase in wages for women workers as compared to formal skill training.
- Very few women workers in India receive any social security benefits.

A Statistical Portrait of the Indian Female Labor Force

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1. Introduction

The female labor force participation rate (FLPR) in India has seen a declining trend since the 1990s despite strong economic growth, decline in fertility, expansion of education, and improved access to infrastructure (Klasens 2019). The FLPR is an important metric for an economy as it leads to improved and sustained growth. According to McKinsey Global Institute's recent report, *The Power of Parity: Advancing Women's Equality in Asia-Pacific*,¹ more than 70% of the potential GDP opportunity comes from increasing women's participation in the labor force by 10 percentage points. Therefore, it is important that India leverage its large female population by encouraging them to join the labor force.

While most G20 economies have sustained their FLPR levels over the previous 2 decades, India's trajectory has been the opposite. In 2021, India recorded the lowest FLPR across all G20 economies (Figure 1), showing a secular decline from 2000. On observing historical trends, this pattern of declining FLPR can be traced back much further in India. The country recorded an FLPR of 24.1% in 1955, which increased to 33% in 1972.² Since then, the FLPR has seen a gradual and consistent decline to about 23% in 2017.³ However, this declining trend has begun to reverse, with the FLPR improving to 33% in 2021.⁴ On further disaggregation of the data, we find that the increase in FLPR is being primarily driven by location and industry-specific factors, such as the increasing participation of women in agriculture within the rural economy.

Against this background, this policy brief seeks to address 2 questions: (1) What explains the changing trend of FLPR from 2017–2018 to 2021–2022 and (2) What explains the heterogeneity across demography and industries in India with regard to the FLPR. To answer these questions, we use the estimates of the latest round of the Periodic Labour Force Survey (PLFS), conducted between July 2021 and June 2022.



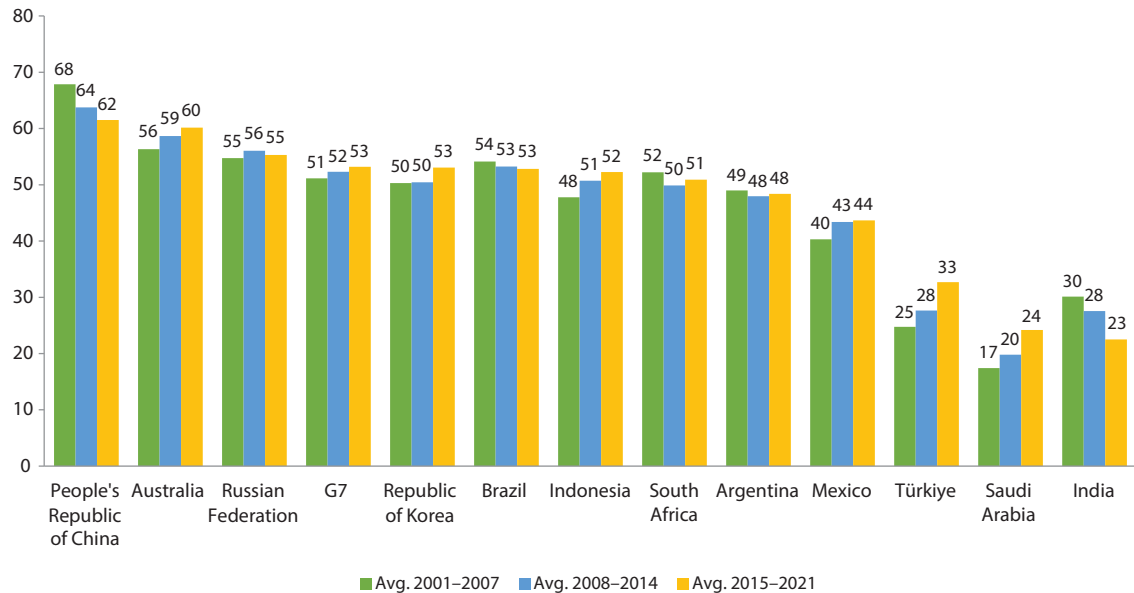
¹ <https://www.mckinsey.com/featured-insights/gender-equality/the-power-of-parity-advancing-womens-equality-in-asia-pacific>.

² Nikore, M. 2019. *Where Are India's Working Women? The Fall and Fall of India's Female Labour Participation Rate*. London School of Economics.

³ Periodic Labour Force Survey 2017–18.

⁴ Periodic Labour Force Survey 2021–22.

Figure 1: Female Labor Force Participation Rate Across G20 Countries (%)



Note: The G7 average includes the European Union.

Source: World Bank.

This survey has been conducted annually by the National Statistics Office (NSO) since 2017–2018 and is widely used to estimate India’s labor market statistics across rural and urban areas.

2. General Trends

The FLPR trend is broadly explained through demand and supply side factors in academic literature. Kapsos et al. (2014) explain the low FLPR in India through demand-side factors. The authors point to the fact that gender segregation of occupation and the lack of growth in demand for labor in sectors dominated by women have resulted in low participation. In essence, both the number and type of jobs matter (Das and Desai 2003). Khatiwada and Veloso (2019) discuss how new types of work in developing Asia influence access to emerging opportunities. They further emphasize how men have traditionally had access to a greater proportion of these opportunities. Similarly, Mehrotra and Parida (2017) point out that the use of seed drillers, harvesters, and threshers has disproportionately displaced female workers from the workforce. On the supply side, Klasen and Pieters (2015) identify the forces for the stagnating FLPR in India using micro-level data. The authors conclude that male income and education reduces female labor force participation.

The positive effect of higher education is moderated by opposing factors like social constraints. Thus, factors such as household income, societal and cultural norms, and migration could affect the FLPR in India. In this section, we present some general observations for the female labor force in India by analyzing it according to geography, demographics, industry, and occupations.

The FLPR above the age of 15 has shown solid improvement in India from 23% in 2017–2018 to 33% in 2021–2022. Remarkably, this trend has been consistent throughout the various states, with very few exceptions. However, there is a clear divide within the FLPR across states. While states within the northeast of the country and those primarily adjacent to the Himalayas like Himachal Pradesh (66%), Uttarakhand (33%), Sikkim (58%), Meghalaya (50%), and Nagaland (51%) have a relatively higher FLPR as compared with the Indian average (33%); states along the Indo-Gangetic plains like Punjab (24%), Haryana (19%), Delhi (12%), Uttar Pradesh (26%), Bihar (10%), and West Bengal (28%) have performed poorly as compared with the rest of the country. States situated in southern and western parts of the country are better performers than the rest of India, with Telangana (45%) and Andhra Pradesh (43%) leading the FLPR metric, followed by Tamil Nadu (41%), Maharashtra (38%), Kerala (37%), and Gujarat (34%).

Given that 79% of India’s female labor force is situated in rural areas, the FLPR trend is dominated by structural changes in the rural economy. The FLPR in rural areas has increased at a faster pace from 25% in 2017–2018 to 37% in 2021–2022 as compared with a change from 20% to 24% in urban areas. As Kapsos et al. (2014) observe, the labor market differs significantly between the rural and urban regions of the country. These differing outcomes are primarily driven by the dominance of agriculture in rural areas and the diversified composition of sectors within urban areas. As a result, sectoral divergence is the driving factor of the differing pace of FLPR change in both the regions. Thus, for the remainder of the analysis, we divide the female labor force into rural and urban cohorts and examine the results for each.

2.1 Demographic Indicators

As shown in Figure 2, we find that the rural FLPR is consistently higher than the urban FLPR across all income deciles (as proxied by the deciles of Usual Monthly Per Capita Expenditure [UMPCE] decile classes). Another interesting finding is that the FLPR is higher as the population⁵ gets richer in India. The FLPR is 20% in

the bottom 10% of rural population but changes to 35% in the top 10%. This change is relatively similar in urban areas, where the FLPR is 15% in the bottom 10% of the urban population and 26% in the top 10%. This trend is consistent across most states in India, with a few outliers (Table A2.1 in the online Appendix 2).

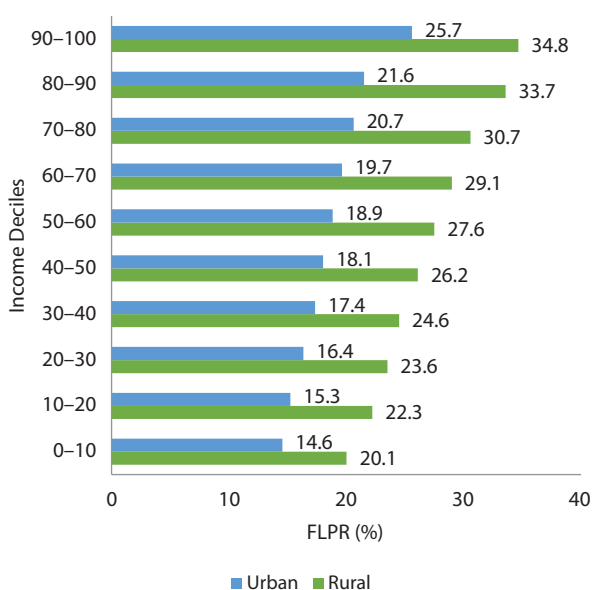
Furthermore, in the rural economy, the vast majority of the female labor force is employed in agriculture across all income deciles (Figure 3). However, this proportion declines as the population gets richer, from 81% in the bottom 10% of the population to 63% in the top 10%. This is complemented by a consistent increase of women workers in manufacturing and services as we move up the income deciles. Within urban areas, the proportion of women working in manufacturing and related industries consistently declines from 33% for the lowest income decile to 13% for the highest income decile. Conversely, the proportion of women working in the services industry increases from 46% for the lowest income decile to 85% for the highest income decile. Agriculture follows a similar trajectory as with rural areas, with the share of women workers declining as the population gets richer.

Consistent with industry trends, the highest FLPR in rural areas is found in households that either supply casual labor to agriculture or are self-employed (Figure 4). In contrast, within urban areas (with a high share of the service sector), the highest FLPR is within households that earn a regular salary. We take detailed look at female employment trends within different sectors of the economy in the next subsection.

Comparing the FLPR across education levels, we see a U-shaped relationship (in both rural and urban areas); where the FLPR reaches its nadir for women having achieved secondary/higher secondary education and is relatively higher for the opposite ends (Figure 5a). In both rural (59%), and urban (48%) areas, it is highest for women who have earned a diploma or certificate. Those with a postgraduate degree or above come next (47% in urban areas and 42% in rural areas).

Looking at the FLPR across marital status, we find that married women have a significantly higher FLPR than women who have never been married in rural areas and almost similar participation rate within urban areas. (Figure 5b). On analyzing the FLPR by age group (Figure 6), we see that the FLPR is the highest

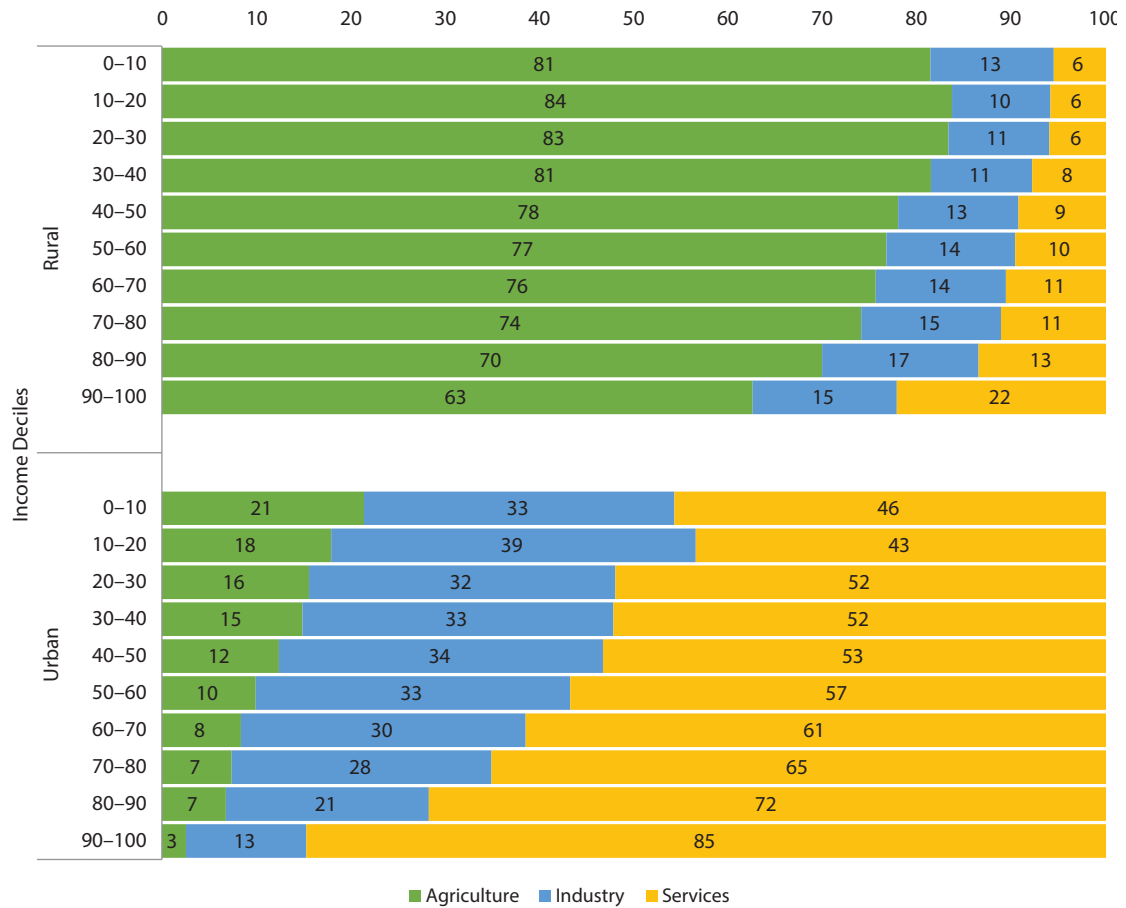
Figure 2: Income Decile Classes and FLPR in India, 2021–2022



Source: Authors’ computation of the PLFS data.

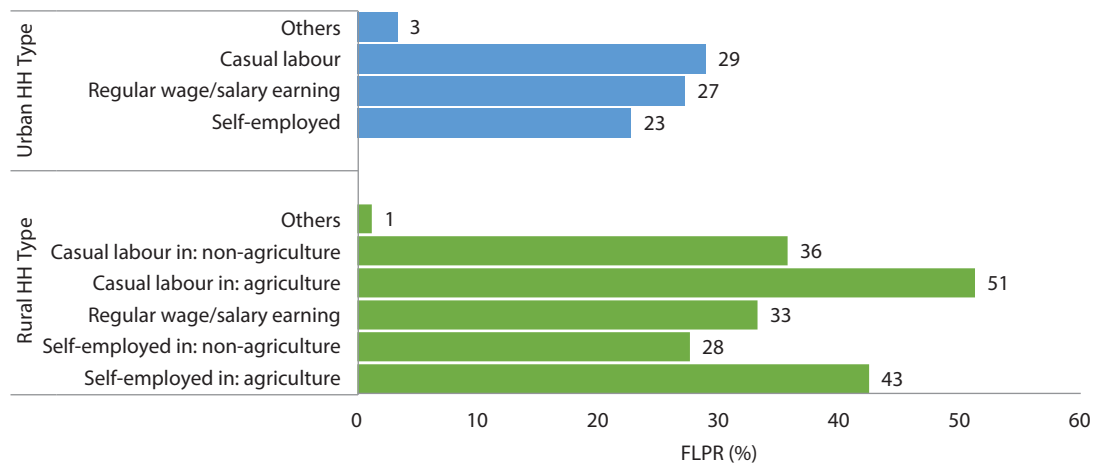
⁵ This result is for a household level analysis.

Figure 3: Distribution of Female Workers by Income Decile Classes Across Sectors, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

Figure 4: FLPR by Household Type Above Age 15, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

Figure 5a: FLPR by Education Level Above 15 Years, 2021–2022 (%)

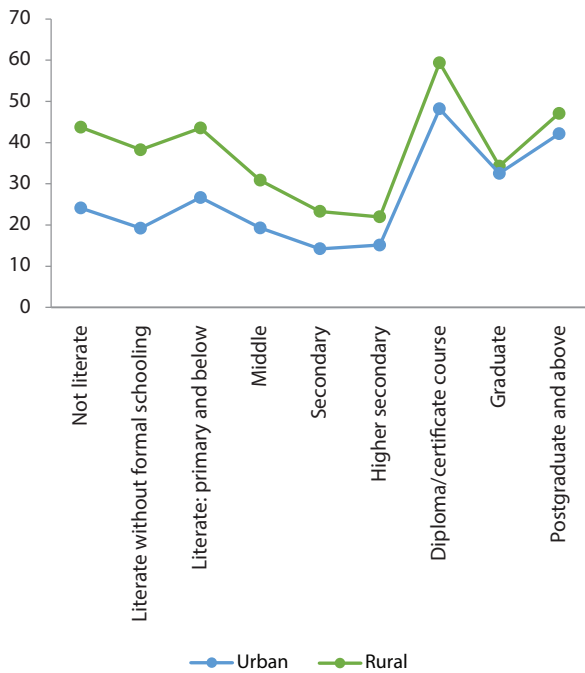
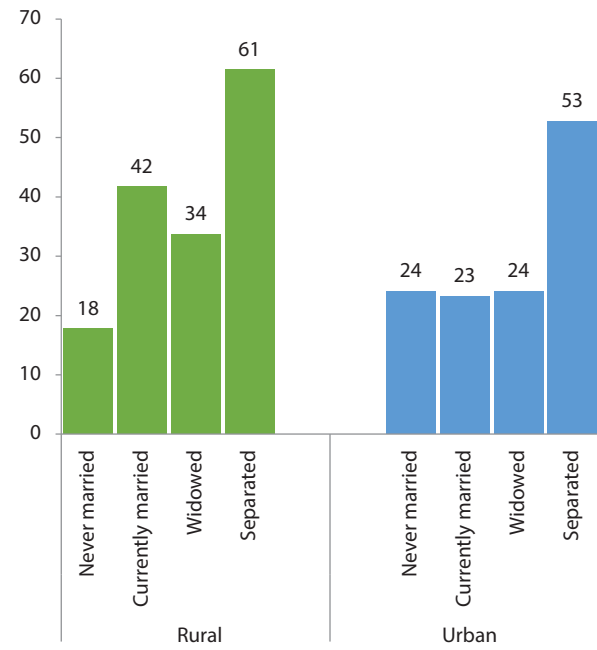
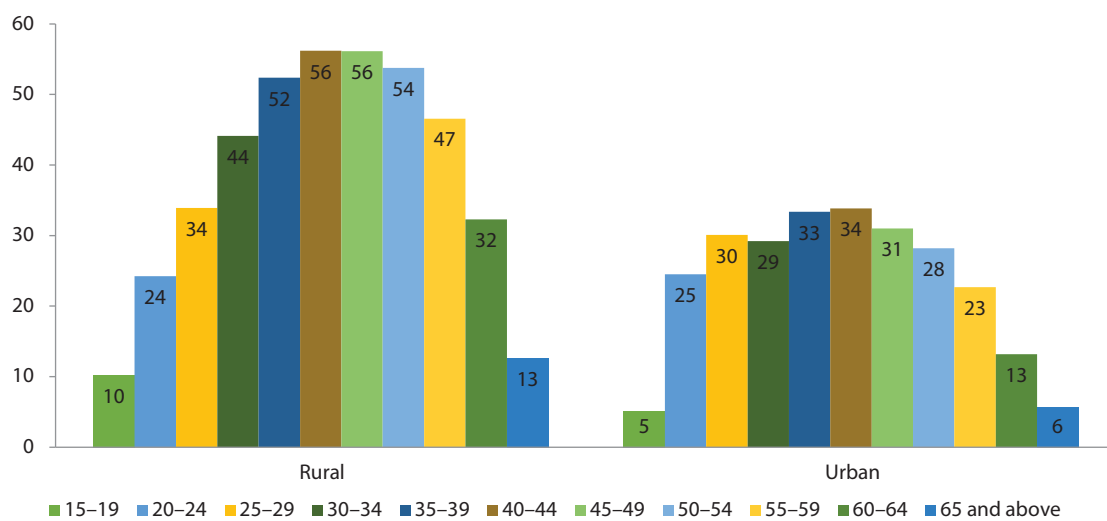


Figure 5b: FLPR by Marital Status for Women Above 15 Years, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

Figure 6: FLPR by Age Group, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

(approximately 55%) within the age subset of 35–54 for the rural economy. However, for the urban economy, the FLPR is uniformly distributed across all age categories. Thus, one can infer that the FLPR is highly skewed toward middle-age categories in the rural areas, but more moderately distributed across a wider age cohort in the urban context.

2.2 Sectoral Indicators

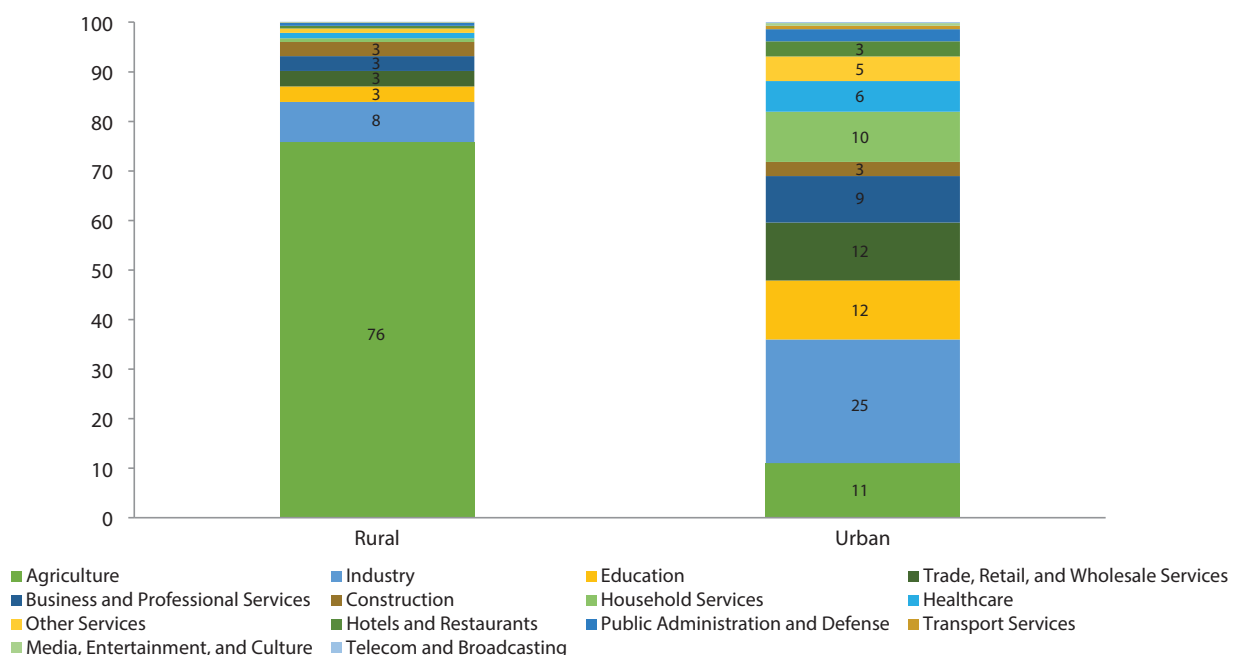
As discussed earlier, FLPR among women workers grew at a much faster pace in rural areas as compared with the urban regions of the country from 2017–2018 to 2021–2022. The bulk (80%) of this increase in rural areas has been due to the increase in employment of women in agriculture. In contrast, the increase in urban areas is spread across a wide range of sectors including manufacturing and related industries; trade, retail and wholesale services; agriculture; and business and professional services. Thus, while the overall employment rate is only a metric, it is critical to understand the quality of jobs that women are engaged in. A sectoral analysis across rural and urban areas provides a snapshot of the different industries in which the female labor force is involved.

As shown in Figure 7, in the rural economy, 76% of the jobs for women are in the agricultural sector (having

increased from 73% in 2017–2018), while 8% of the women are employed across manufacturing industries. At the urban level, the female work force is more broadly distributed across various sectors. Manufacturing and related industries make up roughly 25% of female employment, closely followed by service industries like education (12%); trade, retail and wholesale (12%); household services (10%); and business and professional services (9%). Interestingly, agriculture only accounts for 11% of female employment in urban India. Apart from a few outliers, the state-wise distribution of female employment by industry (Figure A2.1 in the online Appendix 2) shows a similar trend, which is consistent with the national trend.

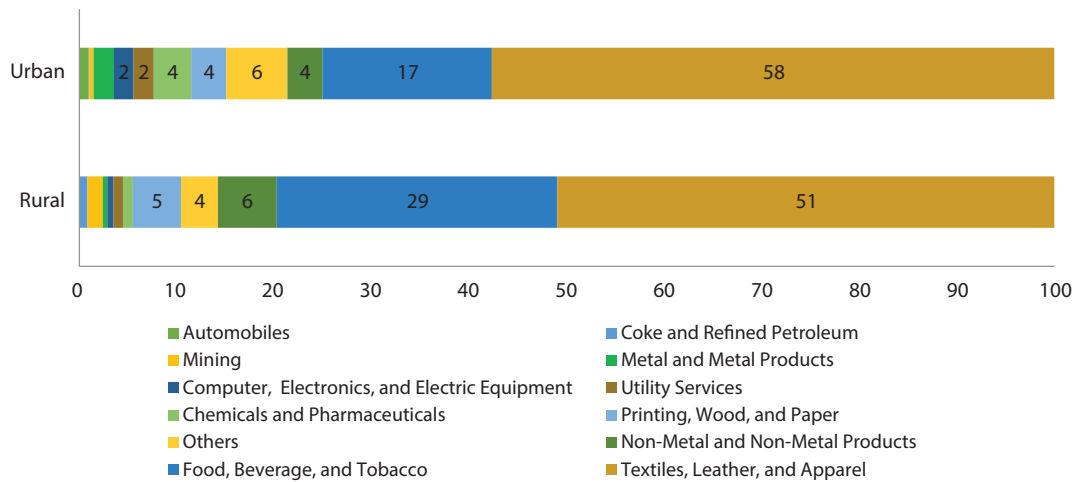
Given that the manufacturing sector is a major employer of women in India, we further disaggregate the employment trends within manufacturing and related industries for urban and rural India (Figure 8). The trend is uniform across both rural and urban contexts, with a vast majority of female jobs being concentrated in textiles; leather and apparel; and food, beverages, and tobacco industries. Within these industries, the largest shares of female employment are in apparel manufacturing and tobacco. Other important industries include metal and paper-based product industries in rural areas and mining as well as chemical and pharmaceutical industries in urban areas.

Figure 7: Share of Female Employment by Industry, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

Figure 8: Share of Female Employment in Manufacturing and Related Industries, 2021–2022 (%)



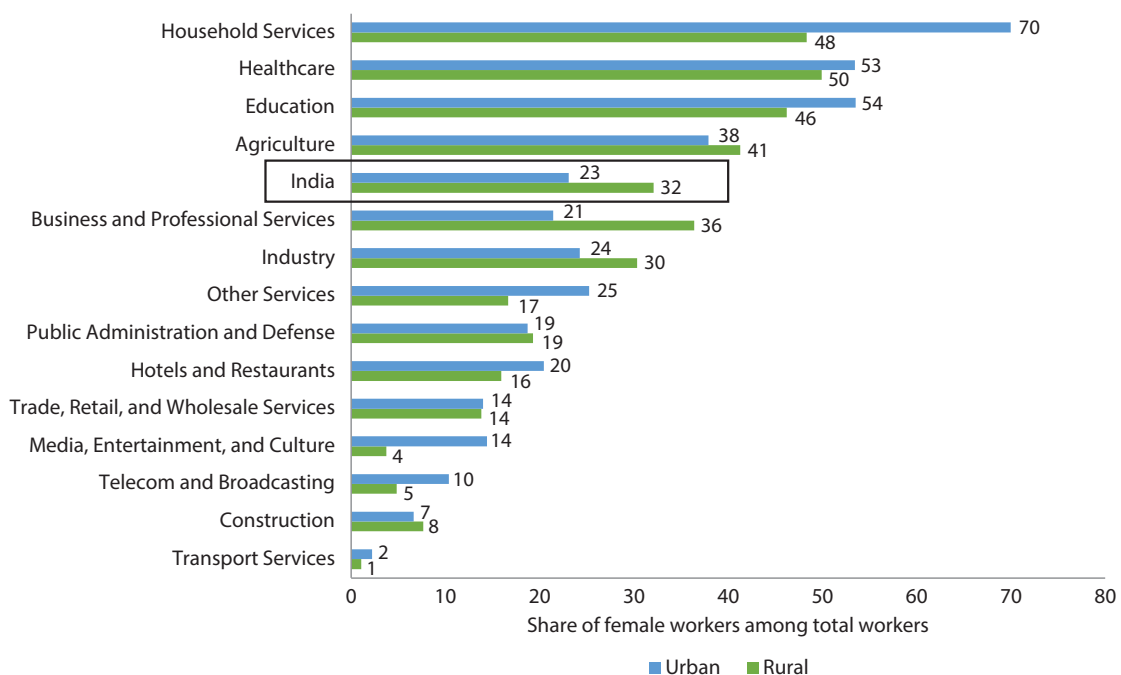
Source: Authors' computation of the PLFS data.

We also look at gender ratios⁶ across rural and urban India (Figure 9). At a national level, women contribute to 23% of total employment in urban areas and 32% of total employment in rural areas. Within both rural and urban areas, industries like agriculture, education, healthcare,

and household services have a higher gender ratio than the national average.

Looking at wages, we see that women in urban areas make, on average, 2.15 times as much as women in

Figure 9: Gender Ratio by Industry, 2021–2022 (%)

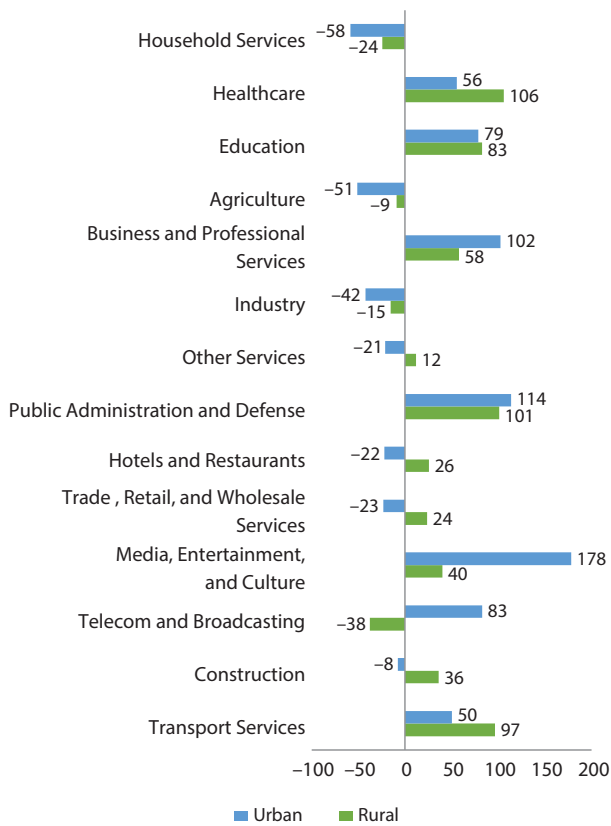


Note: India indicates the average gender ratio across industries.

Source: Authors' computation of the PLFS data.

⁶ The gender ratio here is the share of female workers in a particular sector relative to the total workers in that sector.

Figure 10: Mean Female Wage of Workers Relative to Female Workers in India, 2021–2022 (%)

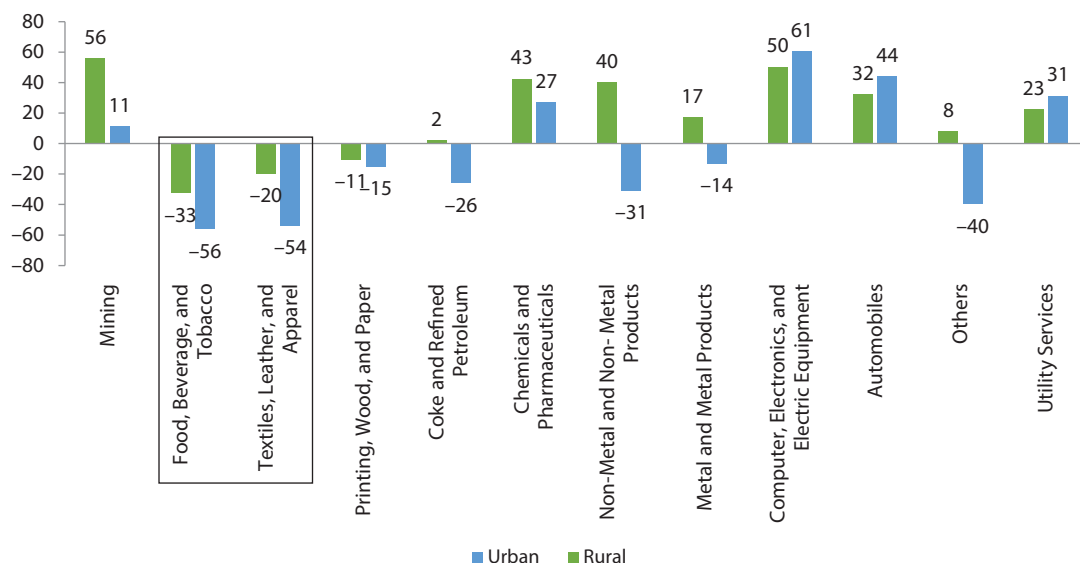


Source: Authors' computation of the PLFS data.

rural areas. This wage difference is primarily driven by the sectors in which women find employment in both the regions. It is therefore useful to compare the relative wages of female workers in rural and urban areas according to their industry of employment.

Figure 10 shows the differential between the wage accrued by women workers in each industry relative to the mean wage of women workers in rural and urban areas, respectively. We observe that women workers in agriculture and household services receive, on average, a wage that is lower than the mean wage of women in both rural and urban areas. Given that both these industries comprise 77% and 21% of total women employed in these regions, respectively, there is an urgent need to shift women to higher-paying industries, particularly in rural areas. While looking at services, industries such as education, healthcare, business and professional services, and public administration provide women with a far better wage than the average in both rural and urban areas. Within manufacturing and related industries, we find that women earn less than the average in both rural and urban areas. This could be a function of the type of industries in manufacturing where women are employed. As Figure 11 illustrates, the negative wage differential of manufacturing industries is primarily driven by food, beverage, and tobacco; and textiles, leather, and apparel industries, where the vast majority of women are employed in both rural and urban areas.

Figure 11: Mean Female Wage of Workers in Manufacturing Industries Relative to Female Workers in India, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

2.3 Occupational Indicators

We look at the distribution of female workers across occupations to get some insights regarding the professions where women are employed. We take the National Occupation Classification of 2015 (NCO-2015) as our standard classification for this analysis. We present results at an aggregate division level (one-digit level) for women workers across rural and urban areas (description of such are available in Appendix 1, Table A1.1). A more disaggregated trend (three-digit level) can be found in Table A2.3 in the online Appendix 2.

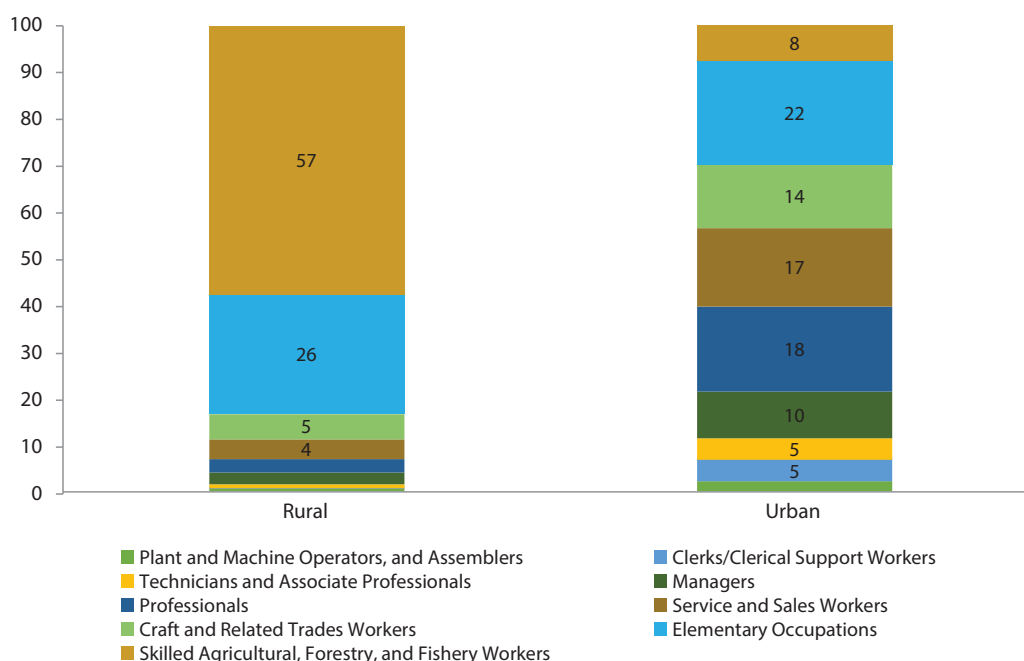
According to our results, a high proportion of female jobs in rural areas are in agriculture and related occupations (Figure 12). This is followed by elementary occupations and craft workers. As seen in Table A3, even within elementary occupations, the largest number of women are employed as agricultural laborers. Other occupations that employ a large share of women in rural areas include construction and mining laborers, shop salespersons, and garment workers.

Within urban areas, the female workforce is employed across a more diverse set of occupations. Figure 12 shows that a large number of women workers in urban areas are employed in elementary occupation, service and sales workers, craft-related workers, managers, and

professionals. Within each of these occupational divisions, there are a number of subgroups where women workers are concentrated. As shown in Table A3, a substantial number of women in elementary occupations are engaged as domestic, hotel and office cleaners, and factory laborers. In the service and sales division, women are in occupations such as shop salespersons and cooks. Women are engaged as garment and handicraft workers in craft and related trades division. Among professionals, women are concentrated in the education industry as primary and secondary school teachers. Remarkably, more than 1 out of 20 female workers in urban areas are in a top management occupation such as director or chief executive officer of a company.

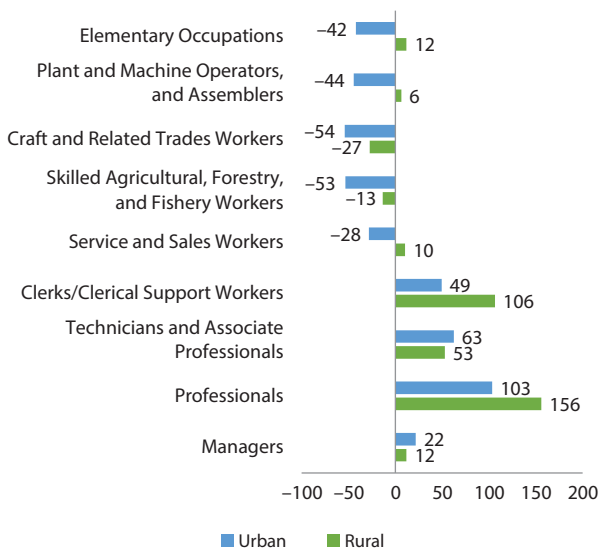
Looking at the wages accrued by female workers across occupational divisions (Figure 13), we find that managers, professionals, technicians, and clerical workers accrue a higher wage than the mean wage in both rural and urban areas in the country. Agriculture and craft workers, on the other hand, earn less than the national average in both rural and urban areas. The picture is split for elementary occupations, where women workers receive a lower-than-average wage in urban areas, but an above-average wage in rural areas. This could be because the vast majority of jobs in rural India are for agricultural workers, which lowers the average wage.

Figure 12: Female Employment by Occupation, 2021–2022 (%)



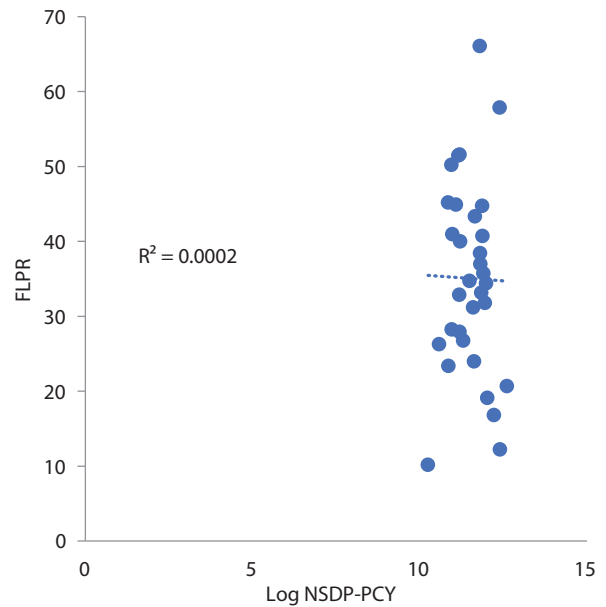
Source: Authors' computation of the PLFS data.

Figure 13: Mean Female Wage of Workers in Occupations Relative to Female Workers in India, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

Figure 14: FLPR PCY Scatterplot, 2021–2022 (%)



Source: Authors' computation of the PLFS and National Accounts data.

3. Key Findings

This section outlines the broad findings from the latest round of the PLFS survey. We use a wide variety of indicators to assess the status of the female labor market in India, and the factors that impact it.

Finding 1: Economic Prosperity of a State and Female Labor Force Participation Rate Are Not Correlated

As discussed earlier, there is a clear heterogeneity in FLPR across states in India. To explain this variation, we examine the relationship between a state's economic development (as measured by its Net State Domestic Product per capita) and its FLPR to determine whether development is an important element in increasing gender inclusion in an economy.

It is evident from Figure 14 that the level of economic development of a state does not significantly contribute to the variation in FLPR across states. A closer look at the association shows that the top 5 States/UT with the highest FLPR in India have an average NSDP per capita

that is 38% less than the bottom 5 States/UT, thereby contradicting the global evidence that posits a positive association between both. This conflicting result could be explained by the fact that richer states in India have a higher share of urban population leading to a lower FLPR due to sectoral factors.

Finding 2: In Rural India, Women's Employment Is Characterized by a Higher Proportion of Unpaid Family Workers and Low-Paying Jobs Like Own-Account Workers, Whereas Urban Areas Predominantly Offer Higher-Paying Regular Salaried Jobs

We categorize female workers into 3 broad categories: self-employed workers, regular salary/wage workers, and casual laborers. Within these categories, we further disaggregate the self-employed workers into own account workers,⁷ employers,⁸ and unpaid family workers.⁹ We also split casual laborers into those working in public works¹⁰ and those engaged in other types of works.

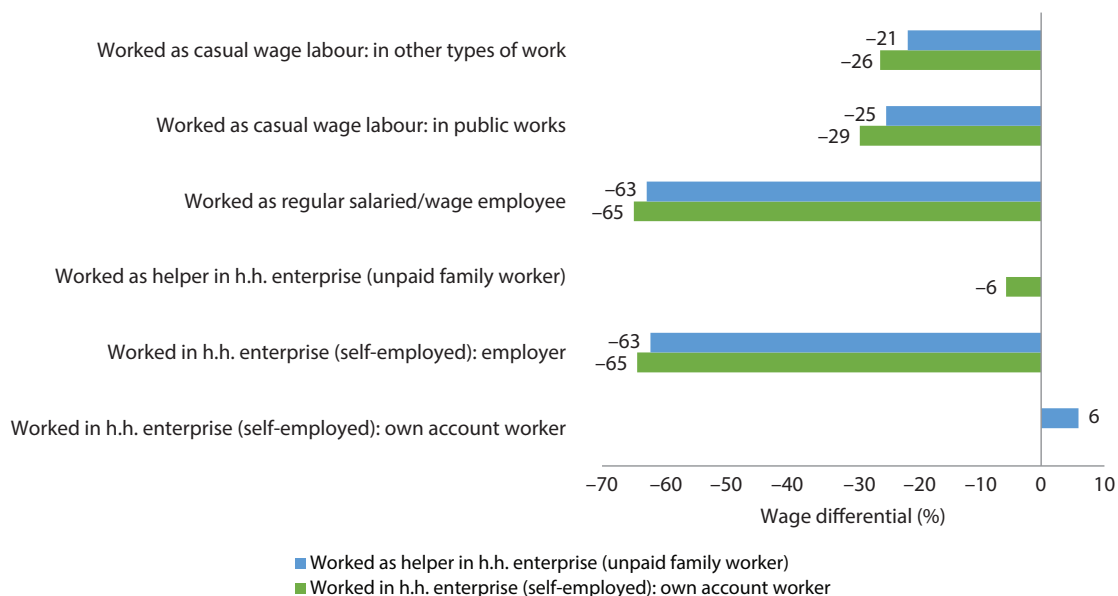
In India, a large proportion of female workers are either own account workers (25%) or unpaid family workers (37%), followed by casual laborers (22%). Only 16% of women workers in India receive a regular salary or wage. Looking at earnings across employment type, we find that women workers employed as unpaid family workers or own account workers on average earn the lowest income of all job types, with women in these 2 categories having a large negative income differential with both casual laborers and regular salaried workers (Figure 15).

The prominence of unpaid family workers and own account workers is particularly significant in rural areas where nearly 68% of all women workers come within these two categories. As Figure 16 shows, this trend is driven by the fact that the vast majority of women workers are in agriculture, in which unpaid family workers and own account workers are responsible for

52% and 23% of all female employees, respectively. This is further bolstered by manufacturing and associated industries (the second-largest employer of women in rural India), where 77% of all women workers are within these two categories.

In contrast, in urban areas, the majority of women (50%) are in jobs that provide them with a regular salary or wage, while the share of unpaid family workers and own account workers is 40%, much lower than in rural India. The driving factor behind this is the fact that the service sector is the largest source of regular salaried jobs for women in India and constitutes nearly 64% of total women workers in urban areas. Within this sector, industries such as education, healthcare, public administration, media, telecom, transport services, and household services employ the vast majority of their female workers on a regular salary or wage.

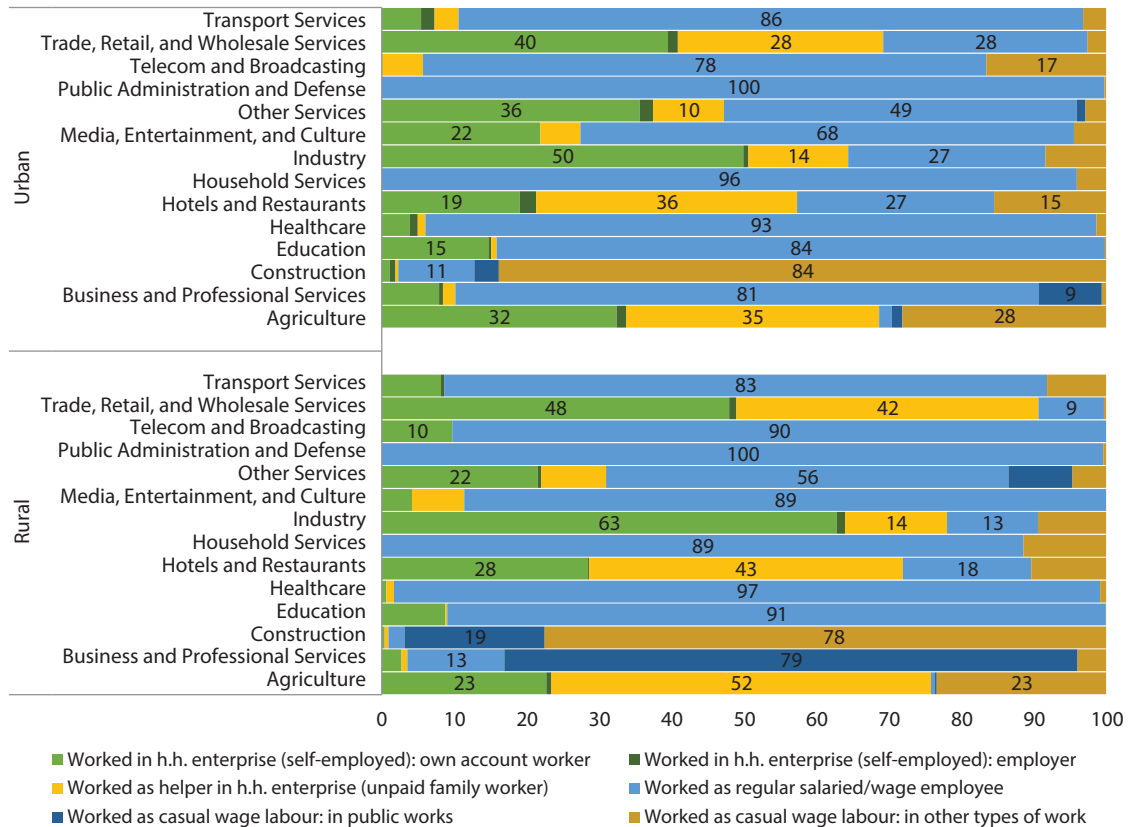
Figure 15: Income Differential by Employment Type in India, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

⁷ Self-employed persons who operated their enterprises on their own account or with one or a few partners and who, during the reference period, by and large, ran their enterprise without hiring any labor were considered as own-account workers (National Statistics Office 2019).
⁸ Self-employed persons who worked on their own account or with one or a few partners and, who, by and large, ran their enterprise by hiring labor were considered as employers (National Statistics Office 2019).
⁹ Self-employed persons who were engaged in their household enterprises, working full or part time and did not receive any regular salary or wages in return for the work performed were considered as helpers/unpaid family workers in household enterprise. They did not run the household enterprise on their own, but assisted the concerned person living in the same household in running the household enterprise (National Statistics Office 2019).
¹⁰ Public works were those activities that were sponsored by the government or local bodies, and which cover local area development works like construction of roads, dams, bundhs, digging of ponds, etc. (National Statistics Office 2019).

Figure 16: Female Employment by Industry Type, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

Finding 3: Female Literacy Affects FLPR Within Urban Areas, But Not in Rural Areas

Based on global evidence, the literacy rate and skill training levels of women are important factors in increasing participation in the labor force (Kapsos et al. 2014). However, this positive relationship between female literacy and FLPR holds true only for urban regions of India (Figure 17a).

This divergence (within rural and urban areas) regarding the impact of female literacy on FLPR can be explained by the nature of jobs that are available to women in both regions. Within urban areas, service sector jobs are more prominent, which require a higher skill level, thus incentivizing women to attain higher levels of education to be part of the labor force. On the other hand, agriculture is the dominant sector in the rural economy, which requires little or no skill. Hence, we note that the female literacy rate is not associated with FLPR in rural

areas (Figure 17b). While the FLPR in rural areas is higher than in urban areas, the reason is not the literacy level, but rather the nature of jobs that are limited in the rural regions compared to urban areas. This becomes clearer as we observe that when we move up the economic value chain from agriculture to high-value services, we see a secular trend for rising educational requirements among female workers in both rural and urban areas (Figure 18). Almost 50% and 42% of female agricultural workers in rural and urban areas, respectively, are illiterate. Within manufacturing and related industries, we find that the proportion of illiterate workers reduces to 24% in rural areas and 18% in urban areas. Women workers' literacy levels further improve as we look at more complex services such as education, healthcare, and business and professional services, where on average only 15% of women workers in rural areas and 3% of women workers in urban areas are illiterate, with 23% and 67% of all women workers being highly educated (graduate and above), respectively.

Figure 17a: Urban FLPR and Female Literacy, 2021–2022 (%)

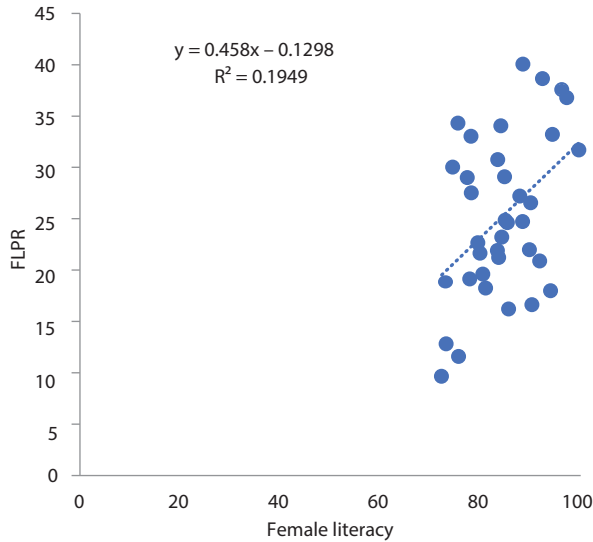
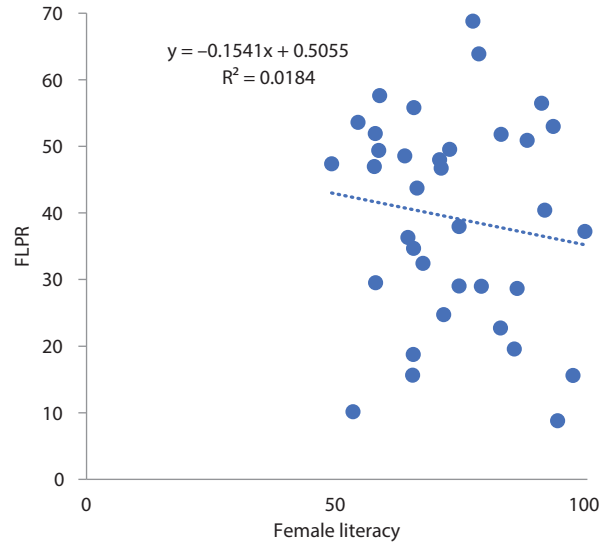
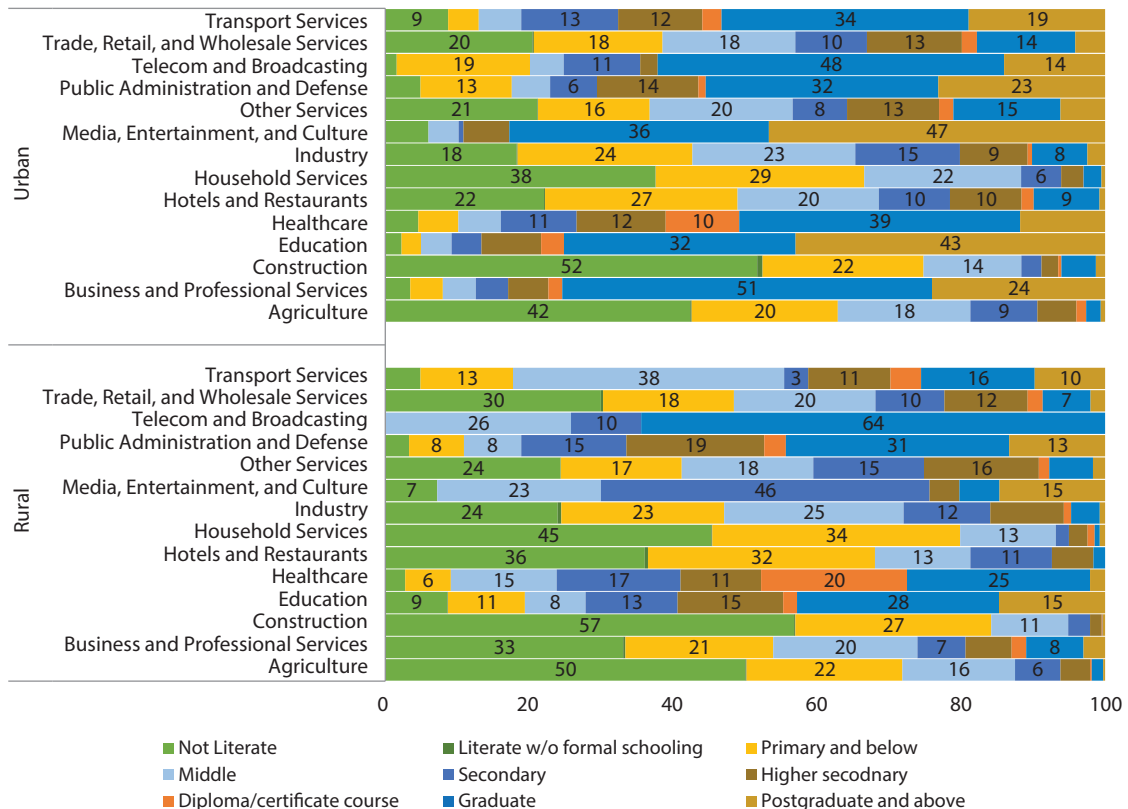


Figure 17b: Rural FLPR and Female Literacy, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

Figure 18: Female Employment in Industry by Education, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

Finding 4: Informal Skill Training Has No Effect on Income, particularly in Manufacturing

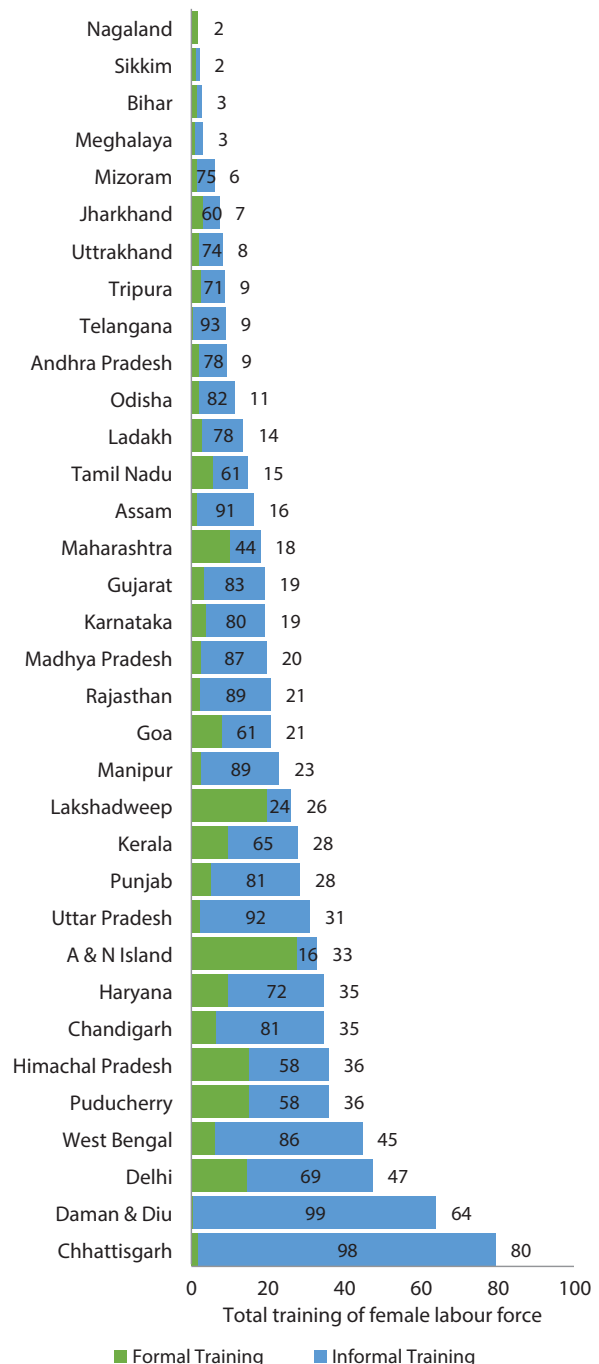
Skill training is also an important route through which the FLPR can increase in India. Skill training is of two kinds: formal and informal.

Formal training is defined as training acquired through institutions/organizations and recognized by national certifying bodies, leading to diplomas/certificates and qualifications. It is structured according to educational arrangements such as curricula, qualifications, teaching/learning requirements, and assessment. Formal training is intentional from the learner’s perspective.

Informal training is defined as training that occurs in daily life, in the family, in the workplace, in communities, and through the interests and activities of individuals. It is not structured (in terms of learning objectives, learning time, or learning support) and typically does not lead to certification. It includes different types of training like hereditary training, self-learning, and learning on the job.¹¹

Overall, only 23% of women in the labor force have received skill training, of which 81% received informal training. A state-wise analysis (Figure 19) of skill training shows that Chhattisgarh, Delhi, and West Bengal lead the states with respectively 80%, 64%, and 47% of their female labor force having received some form of skill training. However, the existence of informal training is a common denominator across all states. An expected outcome of higher skill training is an improved job quality with higher wages. However, data suggests that this outcome is true for only formal training in India. Women who have received formal training on average earn 110% more than those who have not. This positive wage differential is significant in most states, ranging from nearly 250% in Rajasthan to 3% in Goa (Figure A2.2 in the online Appendix 2). The same outcome is not true for women who have obtained informal training, with women in this category earning 6% less than women who have received no training in India. This trend is similar for both rural and urban areas, with women that have received informal training not accruing any significant wage differential as compared to women who have received no training.

Figure 19: State-Wise Share of Female Labor Force Having Received Any Skill Training, 2021–2022 (%)

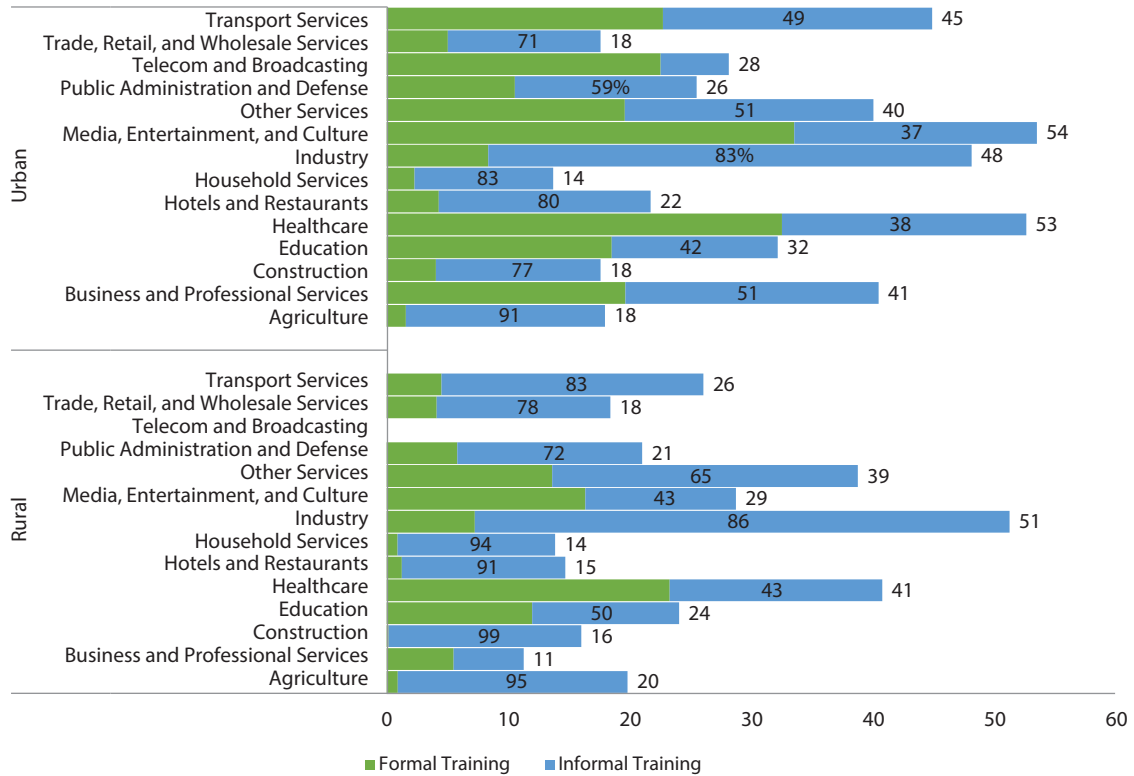


Note: In 2011, the Government of India approved the name change of the State of Orissa to Odisha. This document reflects this change. However, when reference is made to policies that predate the name change, the formal name Orissa is retained.

Source: Authors’ computation of the PLFS data.

¹¹ National Statistics Office (2019).

Figure 20: Industry-Wise Share of Female Workers Receiving Any Training, 2021–2022 (%)



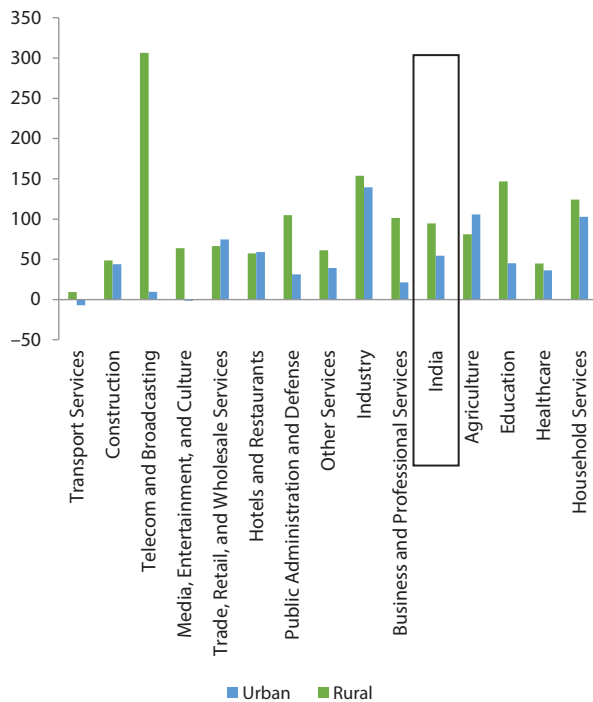
Source: Authors' computation of the PLFS data.

Looking at sector-wise trends, we find that the industries containing the highest proportion of skilled trained women workers are similar in both rural and urban areas (Figure 20). These include manufacturing industries as well as service industries like education, healthcare, media and entertainment and business and professional services. The majority of women workers in the services mentioned above have had formal training in both rural and urban areas, but the bulk of training in manufacturing is informal. Similarly, from a sector-wide look at wages (Figure A2.3 in the online Appendix 2), we observe that household services and agriculture provide the lowest benefit from any type of training in both rural and urban areas. In contrast, education, healthcare and business and professional services are the sectors where trained women workers receive the largest benefit, particularly if they are formally trained. Interestingly, in manufacturing (with the bulk of women having received informal training) there is no significant accrual of benefit from training.

Finding 5: Services Do Relatively Well Compared to Manufacturing and Agriculture in Reducing Wage Inequality

In order to observe the wage inequality within the Indian labor market, we look at the Gender Pay Gap (GPG). On this metric, women in both rural and urban India are worse off than men; with a mean GPG of 95% and 54%, respectively. This inequality has also increased since the first round of the PLFS in 2017–2018, with the rural and urban pay gap widening by 15 percentage points and 4 percentage points, respectively. Looking at sector-wise trends in rural and urban areas, we find that within agriculture, men accrue a wage that is 81% and 106% higher as compared to women in rural and urban areas, respectively (Figure 21). This picture is similar for manufacturing and related industries, where men earn 154% and 139% more as compared to women in rural and urban areas, respectively. The GPG is narrower

Figure 21: Mean Gender Pay Gap by Industry, 2021–2022 (%)



Note: India indicates the average of all sectors.

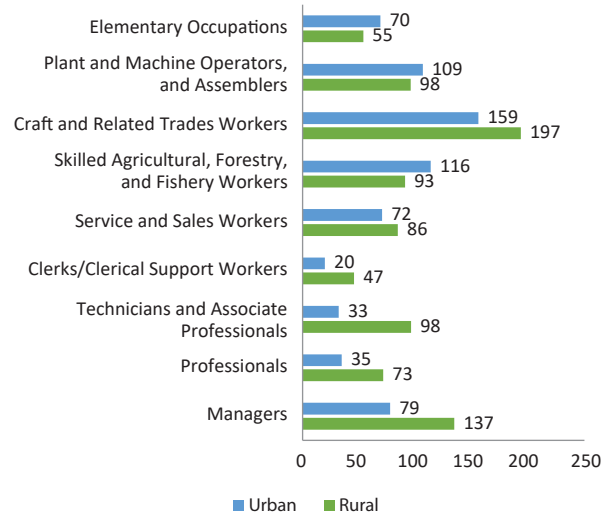
Source: Authors' computation of the PLFS data.

in the service sector as compared to both agriculture and manufacturing. This includes industries such as healthcare, trade, retail and wholesale, hotels and restaurants, and construction.

We also look at the GPG across occupational divisions in rural and urban India (Figure 22). We find that across all occupational divisions, on average men get paid more than women. The biggest gender inequity across rural and urban areas, is in the crafts and trade related workers division, followed by agriculture workers, and plant and machine operators.

The narrowest GPG is within the clerical workers occupations followed by the professional occupational division. Again, occupations within the service industry tend to do better than manufacturing and agriculture-related occupations in terms of social equality. A possible reason for this could be the high education requirements in services-related occupations as shown in Figure A2.4 in the online Appendix 2.

Figure 22: Mean Gender Pay Gap by Occupation, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

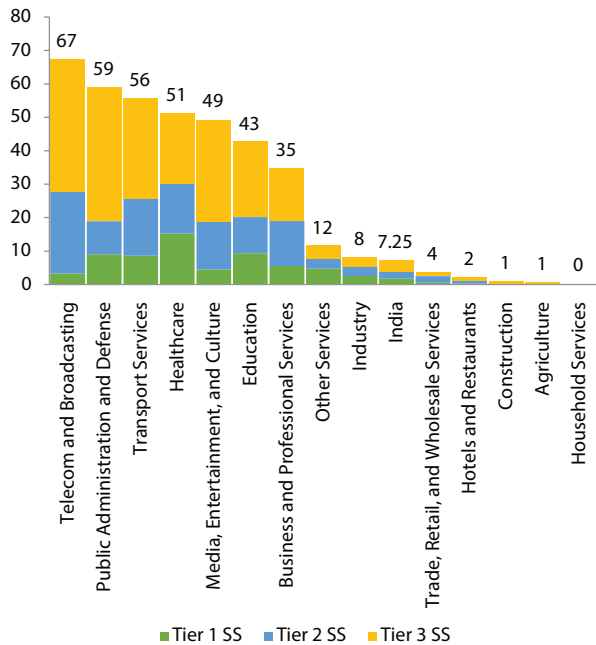
Finding 6: Very Few Women Workers in India Receive Any Social Security Benefits

In India the overall Social Security (SS) benefits are of 3 types: pension, gratuity, and healthcare. We categorize SS benefits into 3 broad categories: Tier 1 SS, Tier 2 SS, and Tier 3 SS. Within Tier 1 SS, only one type of SS benefit (among the 3 mentioned before) is available to women workers in an industry. In Tier 2 SS 2 (out of the 3) types of SS benefits are available to women workers. In Tier 3 SS, all types of benefits like pension, gratuity, and health care are available to women workers.

In India, on average only 7% of women workers receive any kind of SS benefit. Out of these, 24% receive Tier 1 SS benefits, 29% receive Tier 2 SS benefits, and 47% receive Tier 3 SS benefits.

Looking at industry trends (Figure 23), we can see that a significantly higher proportion of women workers in service-based industries such as telecommunications, media, public administration, healthcare, business services, and education have access to at least one SS benefit unlike the rest of the country. Not unexpectedly, women in agriculture have almost no SS protection, and women in manufacturing barely outperform the national average. Surprisingly, granting all SS benefits (Tier 3 SS) is the most common type of benefit package in India, across industries.

Figure 23: Share of Employed Women Receiving at Least One SS Benefit, 2021–2022 (%)



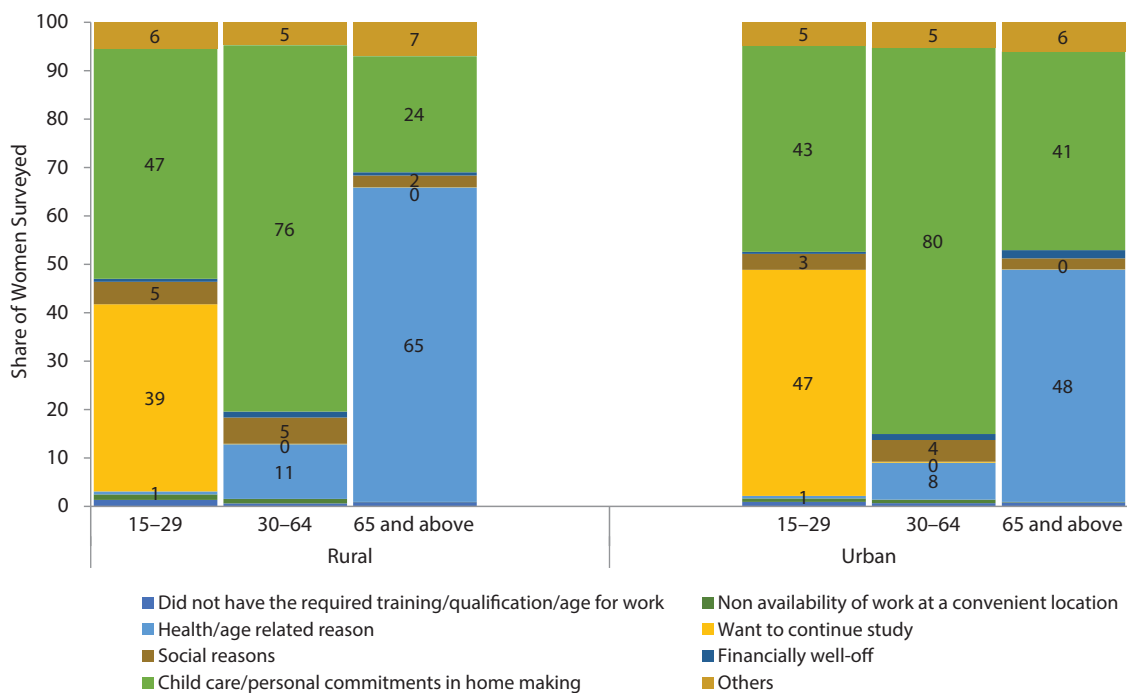
Source: Authors' computation of the PLFS data.

Finding 7: Homemaking, Child Care, Pursuit of Education, and Health Reasons Are Among the Major Inhibitors of FLPR in India

The most recent rounds of the PLFS contain information on the reasons why the surveyed individuals did not join the labor force. This is particularly useful when analyzing the causes of the relatively low FLPR in India. We categorize this information for 3 age groups of women in the country i.e., the age groups of 15–29, 30–64, and 65 and above. The results are shown in Figure 24.

In the age group 15–29,¹² on average 47% and 39% of rural women in India are not in the labor force because they either have personal commitments in homemaking and childcare or want to continue studying. The trend is similar in urban India, with 43% of women not in the labor force due to personal commitments in homemaking and childcare and 47% of women wanting to continue their studies. In the age group of 30–64, there is an even sharper preference toward home making and child care, with 76% of women in rural India and 80% in urban India not entering the labor force due to this reason. In the

Figure 24: Women's Reasons for Not Joining the Labor Force by Age Group, 2021–2022 (%)



Source: Authors' computation of the PLFS data.

¹² The National Youth Policy (2014) and PLFS both define the age group 15–29 as the category considered for young individuals in the country.

age group 65 and above, we find that the vast majority of women (65%) in rural India are not in the labor force due to age and health-related reasons. In urban India, 48% of women are not in the labor force due to health reasons and 41% due to personal commitments to homemaking. Thus, outlining the major reasons for the lack of participation in the workforce, we see a common trend across both rural and urban India. These trends are also consistent across states, with very few outliers.

Given the above results, it is important to analyze the role played by women in household activities within India. The Economic Survey of India 2022–23¹³ pointed out that within the PLFS, productive activities performed by women¹⁴ in households such as collection of firewood, sewing, tailoring, poultry farming, etc. are clubbed together with domestic duties, thereby shifting a significant proportion of women from within the labor force into the out-of-the-labor-force category. Following the steps of the Economic Survey, if we include status code 93¹⁵ from the PLFS, the FLPR increases from 33% to 47% in 2021–2022 for women aged 15 and above. The above analysis does raise some interesting questions on the correct measure of FLPR in India. It is also important to examine the access of women to healthcare as that is another major factor limiting their participation in the labor force. A recent report by the World Economic Forum Global Gender Gap 2021, suggests that India is among the few countries with wide disparity in terms of health and survival of women. Further, a large-scale study by Dupas and Jain (2021) finds striking gender disparities within a government health insurance program, with females accounting for only 33% of hospital visits among children and 43% among the elderly. In addition, there could be other factors limiting the participation of women in the labor force such as the lack of diversification of jobs, particularly in rural areas.

4. Policy Recommendations and Conclusion

The Female Labor Force Participation Rate has been a topic of immense debate over the last few decades. The positive economic and social benefits of an inclusive labor force is well researched in literature. However, economic, social, and cultural boundaries limit the

participation of women in the labor force. Over the last 5 years, there has been some improvement in the overall FLPR in India; however, there has not been much net gain in the last few decades. While economic growth has been achieved, this social indicator has lagged behind. It is time now that the FLPR is no longer looked at from a social lens, but also from an economic one. On analyzing the reasons for the lack of participation of women in the labor force, the PLFS reveals that pursuit of higher education, unpaid care work, and lack of proper access to healthcare are the most important reasons. Thus, policy makers could frame policies that are designed to tackle these issues in unison. We offer the following recommendations.

First, the government should promote and provide benefits to households towards girl child education, particularly in the rural economy where there are relatively lower female literacy levels. The Sarva Shiksha Abhiyan (SSA) scheme is the first step toward this goal. This scheme has been instrumental in increasing the gross enrolment ratio for girls in schools by strengthening existing school infrastructure. This has been achieved by providing additional class rooms, drinking water, and toilets. It has also disbursed grants related to maintenance and improvement of school infrastructure.

Second, home making and childcare is a major reason many women do not join the labor force. Consequently, incentive mechanisms should be created in both rural and urban areas to solve this issue. Within the rural areas, the government should create a “pull” factor to draw women into the labor force by focusing on non-agricultural sectors. These jobs could be in either low-skilled manufacturing or service-oriented industries. In the urban economy, the sectoral distributions of jobs (for women) are more uniformly distributed. Thus, the government’s priority should be to attract more women into the labor force by designing policies that reduce existing social inequalities, increase social security benefits, and improve working conditions. A particular social inequality that the government could tackle is to reduce the large Gender Pay Gap in urban areas. The PLFS data shows that high-value services have the narrowest GPG among all industries in the urban economy.

¹³ Economic Survey of India 2022–23, page 160: <https://www.indiabudget.gov.in/economicsurvey/doc/echapter.pdf>.

¹⁴ Note women involved in production of primary goods are included in the labor force either as self-employed workers, regular salaried workers, or casual laborers. However, women involved in collection of primary goods are not included in the labor force, according to the PLFS.

¹⁵ Defined as: Women who took part in domestic duties, but were also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use.

Third, on healthcare, there seems to be a gender divide in terms of access. The gender disparity persists even with lowered healthcare costs, as the main issue is resource allocation at the household level. Thus, behavioral interventions could be one possible mechanism by which policy makers can reduce the gender divide in healthcare, which could be an impetus to a higher FLPR.

Lastly, in terms of skill training, it is important that the government recognize the impact of formal skill training on job quality. The most suitable way to promote this goal would be to enhance the existing capacity of the Industrial Training Institutes (ITI).¹⁶ As of 2022, India has a total of 14,955 ITIs, with approximately

3.6 million seats across different trades. However, the state-wise distribution of these seats is very skewed. Only 12 of the 37 states/UT in India have more seats available than their share of population. These states include Himachal Pradesh, Lakshadweep, Haryana, Rajasthan, Karnataka, Punjab, Odisha,¹⁷ Goa, Uttar Pradesh, Uttarakhand, Andhra Pradesh, and Kerala. Given that the establishment and expansion of ITI comes under the central government, suitable policies can be designed to invest in States that are falling behind. As envisaged by the Prime Minister of India, it is imperative that the right set of skills are imparted to individuals across the country, to make India the skill capital of the world.

¹⁶ Industrial Training Institutes are post-secondary schools in India constituted under the Directorate General of Training (DGT), Ministry of Skill Development and Entrepreneurship, Government of India, to provide training in various trades.

¹⁷ In 2011, the Government of India approved the name change of the State of Orissa to Odisha. This document reflects this change. However, when reference is made to policies that predate the name change, the formal name Orissa is retained.

Appendix 1

Section 1: Data Sources and Methodology

The PLFS (Periodic Labour Force Survey) utilizes 3 main methods to calculate labor force participation, employment, and unemployment: the usual activity status (UPSS) approach, the current weekly status approach, and the current daily status approach (National Statistical Office 2019). For this study, we have used the usual status approach. This approach determines an individual's activity status based on the previous 365 days leading up to the survey date. Within the usual activity status, an activity can be categorized as either the principal activity or the subsidiary activity carried out by the surveyed individual.

The usual principal activity status is determined by considering the activity in which an individual in the labor force spends a significant amount of time (major time criterion) during the 365-day reference period before the survey date. Additionally, the same individual may have engaged in some economic activity, other than their usual principal status, for 30 days or more during the same reference period. The status in which this economic activity took place within the 365-day reference period is identified as the subsidiary economic activity status of the individual. As a result, both these activities are combined in order to estimate the relevant labor market indicators.

The PLFS allows us to examine how workers are distributed across different occupations and industries in India. It gathers data on the employment status of workers in various industries and occupations, categorizing them using the 5-digit National Industrial Classification (NIC) codes (2008) and 3-digit National Classification of Occupation (NCO) codes (2015). This classification system helps in analyzing and understanding the occupational and industrial composition of the workforce in India.

The PLFS also offers estimates on workers' wages. It collects wage information for 3 main categories of workers: self-employed workers, regular salaried workers, and casual laborers. However, there are notable gaps in the data, especially when it comes to the earnings of self-employed workers. To address this limitation, the approach used by Das et al. (2020) is adopted. This approach involves estimating a regression

equation, similar to the Mincer model, where wages are considered a function of various characteristics of the workers.¹

We employ Heckman's 2-step procedure² to correct any sample selection bias. The first step involves estimating the selection equation (1) using a Probit model. The dependent variable (Z_v^*) explains the decision of an individual "v" of whether to participate in the labor market, taking the value 1 if the individual is employed and 0 otherwise.

$$Z_v^* = W_v * \gamma_v + u_v \quad (1)$$

W_{vk} consists of a set of k identification factors, which are age, sex, marital status, and general education level. Therefore, by utilizing this regression analysis, we can estimate the impact of individual attributes on the decision to enter the labor market. Although our primary goal is to impute the missing wage values for workers, these effects of individual characteristics are not our primary focus. However, the residual of this Probit regression can be used to obtain information on the effect of the unmeasured characteristics that are not available in the dataset or are not captured by the estimated coefficients of the explanatory variables. In the Heckman procedure, these residuals, which are believed to represent the unobserved characteristics related to employment, are utilized to construct a selection bias control factor in a subsequent regression. This allows us to account for and mitigate any potential biases introduced by the unmeasured characteristics when analyzing the relationship between wages and other factors in the dataset.

In the second stage regression (2), the dependent variable (y_v) represents the daily earnings of workers, whereas the set of independent variables (x_v) represents workers' characteristics. This regression helps explain wages received by workers, observable only for those for whom the dependent variable (Z_v^*) in the selection equation (1) takes a value of 1.

$$y_v = x_v * \beta_v + \varepsilon_v; \text{ observed only if } Z_v^* = 1 \quad (2)$$

where y_v is the earnings of individual "v," X_{vk} are a set of k individual characteristics like gender, age, location, general and technical education level, marital status, and the industry of work.

¹ See Mincer (1974).

² See Heckman (1976).

An additional independent variable is added to this equation: the residual (the inverse of Mill's ratio) from step 1, which captures the unmeasured characteristics.

The error terms $(u_v, \varepsilon_v) \sim$ bivariate normal $(0, 0, 1, \varepsilon_v, \rho)$, where ρ is the correlation between ε_v and u_v .

As highlighted by Das et al. (2020), if $\rho \neq 0$, estimates derived from a standard regression model would be biased. However, in the Heckman model, these estimates are consistent and asymptotically efficient. This is achieved by conducting a likelihood ratio test to examine the independence of the equations, specifically testing whether $\rho = 0$, and obtaining the corresponding chi-squared statistic. By employing this technique, the issue of unobserved wages for individuals not employed during the reference period can be addressed.

In the 2-step Heckman Model, the regression function in the second step utilizes the observed daily earnings of self-employed workers, casual workers, and regular salaried workers as their wages are directly observed. For workers whose wages are not observed, the selection model is employed. By performing these 2 steps, we are able to predict the missing values within the 3 worker categories, resulting in a more accurate estimation of daily wages. Consequently, the average daily wages are computed by combining the wages of self-employed workers, regular salaried workers, and casual workers across various occupations and industries. This allows for a comprehensive analysis of wage patterns across these worker categories.

Section 2: Tables

Table A1.1: Division Definitions of NCO 2015 Classifications

Division	Description
Managers	Managers plan, direct, coordinate, and evaluate the overall activities of enterprises, governments, and other organizations, or of organizational units within them; and formulate and review their policies, laws, rules and regulations.
Professionals	Professionals increase the existing stock of knowledge, apply scientific or artistic concepts and theories, teach the foregoing in a systematic manner, or engage in any combination of these activities.
Technicians and Associate Professionals	Technicians and Associate Professionals perform mostly technical and related tasks connected with research and the application of scientific or artistic concepts and operational methods, and government or business regulations.
Clerks/Clerical Support Workers	Clerical Support Workers record, organize, store, compute, and retrieve information related tasks; and perform several clerical duties in connection with money-handling operations, travel arrangements, requests for information, and appointments.
Service and Sales Workers	Service and Sales Workers provide personal and protective services related to travel, housekeeping, catering, personal care; protection against fire and unlawful acts; or demonstrate and sell goods in wholesale or retail shops and similar establishments, as well as at stalls and in markets.
Skilled Agricultural, Forestry, and Fishery Workers	Skilled Agricultural, Forestry, And Fishery Workers grow and harvest field or tree and shrub crops; gather wild fruits and plants; breed, tend or hunt animals; produce a variety of animal husbandry products; cultivate, conserve, and exploit forests; breed or catch fish; and cultivate or gather other forms of aquatic life in order to provide food, shelter, and income for themselves and their households.
Craft and Related Trades Workers	Craft and Related Trades Workers apply specific knowledge and skills in the field to construct and maintain buildings; form metal; erect metal structures; set machine tools; or make, fit, maintain, and repair machinery, equipment or tools; carry out printing work; produce or process foodstuffs, textiles, or wooden, metal and other articles, including handicraft goods.
Plant and Machine Operators, and Assemblers	Plant and Machine Operators, and Assemblers operate and monitor industrial and agricultural machinery and equipment on the spot or by remote control; drive and operate trains, motor vehicles, and mobile machinery and equipment; or assemble products from component parts according to strict specifications and procedures.
Elementary Occupations	Elementary Occupations involve the performance of simple and routine tasks, which may require the use of hand-held tools and considerable physical effort.

Source: National Statistics Office (2019).

Appendix 2

See online [Appendix 2](#).

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