

Beyond labour market entry: Gendered unpaid work and the double burden of women workers in India

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Abstract

Rising female labour force participation in India does not guarantee a fairer division of household work. This paper uses unit level data from the 2024 Time Use Survey to examine unpaid domestic and caregiving work among 179,585 workers aged 15 to 59, of whom 44,394 are women. Women workers spend 257.6 minutes a day on unpaid work against 44.3 minutes for men, and 138.9 fewer minutes in employment. Their combined paid and unpaid burden is therefore 74.4 minutes longer. Survey weighted regressions with demographic, geographic, employment status and diary day controls give an adjusted gender gap of 210.0 minutes in unpaid work and 88.7 minutes in combined burden. The gap in unpaid work is 145.2 minutes larger among currently married workers. It is smaller among regular salaried and urban workers, and it varies widely across States. A threefold Oaxaca Blinder decomposition attributes only 3.1 percent of the raw gap to observed characteristics. The results hold when unpaid family helpers are excluded and when the sample is restricted by diary day type and age. These are associations, not causal effects. Labour market entry and an equal distribution of total work are distinct outcomes, so policy on women's employment must address care and household time as well as access to jobs.

Keywords: Unpaid Work, Time Use Survey, Gender Gap, Double Burden, Women Workers, Care Work, Oaxaca Blinder Decomposition, India

JEL Classification: J16, J22, D13

1. Introduction

The inclusion of women in the labour market has become a major policy and human resource management issue in India. The question is not only how many women enter the labour force, but whether they can sustain and advance in paid work without an undue double burden of employment and unpaid domestic responsibility. PLFS estimates in usual status (ps and ss) show that female labour force participation among persons aged 15 years and above increased from 23.3% in 2017-18 to 41.7% in 2023-24; the corresponding male rate rose from 75.8% to 78.8%. Female worker population ratio increased from 22.0% to 40.3%, compared with 71.2% to 76.3% for men (MoSPI, 2024a).

The more recent PLFS evidence requires care in interpretation. From January 2025, the sampling design was revamped and reporting shifted to the calendar year; MoSPI cautions that estimates from 2025 onward are not strictly comparable with earlier annual rounds. The 2025 figures are therefore treated here as a separate benchmark rather than a continuation of the earlier series. PLFS 2025 also reports that 44.4% of women outside the labour force cited childcare or personal commitments in home making as the main reason for non-participation (MoSPI, 2026).

TUS 2024 directly measures the unequal allocation of time. For all persons aged six years and above, females averaged about 236 minutes per day in unpaid domestic services and 47 minutes in unpaid caregiving, compared with 24 and 13 minutes for males (MoSPI, 2025). These published all person averages must not be conflated with worker only estimates. Our calculations from the unit level file reproduce the published pattern; among women workers aged 15-59, the corresponding domestic and caregiving averages are 224.3 and 33.4 minutes. This paper therefore asks whether women's labour market engagement is accompanied by a more equal distribution of unpaid work, whether the gap varies by marital and employment status, how it differs across States, and how much of the gap is associated with differences in observable characteristics.

2. Literature Review

2.1 Care Work, Labour Market Participation and Time Use

The ILO recognizes the importance of unpaid care as part of decent work since unequal care responsibilities limit time for education, training, paid work, rest and mobility, and career progression (ILO, 2018). Childcare and child safety are also aspects of women's practical economic opportunity included in the World Bank's 2024 report on Women, Business and the Law. Indian research has revealed that increased growth and education do not necessarily lead to increased participation of the female workforce. Persistent low participation among urban married women is also noted by Klasen and Pieters (2015) and there is no systematic U-shaped relationship between state economic development and women's participation as noted by Lahoti and Swaminathan (2016).

An existing literature also raises doubts regarding the ability of traditional categories of the labour force to reflect women's work. Deshpande and Kabeer (2024) show that productive, expenditure saving and unpaid activities are often missed by a simple in and out of labour force distinction and emphasize gender norms in the allocation of domestic responsibility. Sufficient overlap exists between the six States in India's 1998-99 and 2019 time use surveys to allow for the analysis of state level differences in usual activity status from the analysis of minutes worked. Li (2023) shows that the changes in usual activity status can differ significantly from the changes in what is actually worked. This distinction is relevant to the current study because a woman may be accurately described as being in employment, but at the same time have a significant amount of unpaid work that is not captured by conventional measures of employment. These studies have shown the importance of the value of time use evidence but most studies have focused on the population as a whole without specifically looking at the unpaid work burden of women who are already defined as working.

Furthermore, The India policy has started to address the problem of child care by introducing the Maternity Benefit Act, 1961 and Mission Shakti scheme. As of March 2025, a total of 11,395 new Anganwadi cum Crèches has been approved in 34 States and 4 UTs till March 2025 (MWCD, 2025), which represents 65% of the 2024-25 target of 17,000. However, participation rates at the national level or national averages for unpaid work cannot indicate where the double burden is focused. This research makes a contribution in taking into account employment, investigating marriage and type of employment heterogeneity, reporting sub national variation, and decomposing the observed gender gap. The question is not really one of causation, but whether the entrance to the labour market is associated with equality in total work allocation.

3. Data and Methodology

The study is based on the TUS 2024 data from the National Statistical Office (NSO) which were gathered from January to December 2024 at the unit level. Activities are documented for the entire 24 hours from 4:00 a.m. to 4:00 a.m., and coded to ICATUS 2016. There are 10,211,478 activity records from 139,487 sampled households. 450,457 respondents were identified on the person level with complete diaries (1,440 minutes). The analytical sample includes people aged 15 to 59 with the usual principal activity status owner, worker (11), employer (12), unpaid helper, household enterprise (21), regular salaried or wage employee (31), public works casual labourer (41) or other casual labourer (51). This yields 179,585 workers, out of which 135,191 are men and 44,394 women.

Unpaid domestic services are classified in ICATUS Major Division 3, unpaid caregiving services in Division 4. Unpaid domestic services are classified in ICATUS Major Division 3, unpaid caregiving services are classified in ICATUS Major Division 4. Divisions 3 and 4 are combined to make unpaid work, and Divisions 1, 3, and 4 are combined to make combined burden. If two or more activities are scheduled at the same time within the same interval, the time in the interval is

equally split among the activities, maintaining the 1440-minute day. Survey weighted linear regressions estimate the female coefficient with age, age squared, marital status, education, urban residence, 6 detailed categories of usual principal status (11, 12, 21, 31, 41 and 51), day of week, and diary day type and State fixed effects. Weights are final TUS (MLT/100), standard errors are cluster weighted at first stage sampling unit level.

The regression model is as follows:

$$Y_i = \beta_0 + \beta_1 Female_i + \gamma' X_i + \delta_s + \varepsilon_i \quad (1)$$

where Y_i represents daily minutes of unpaid work in the principal model. The same specification is also estimated for combined work burden and employment-related time. $Female_i$ equals 1 for women and 0 for men; X_i contains age, age squared, marital status, education, urban residence, the six detailed usual principal status categories (11, 12, 21, 31, 41 and 51), day of week and diary day type; and δ_s denotes State fixed effects. The coefficient β_1 represents the adjusted gender difference in daily minutes.

A second model includes the interaction of female and currently married, while the third Oaxaca Blinder decomposition breaks the raw gender gap down into components due to the endowment and coefficient. These are all associations within the worker population, and cannot be interpreted as causal as cross sectional data. The principal models do not include household composition for the present study.

Marital-status interaction model is as follows:

$$UW_i = \beta_0 + \beta_1 Female_i + \beta_2 Married_i + \beta_3 (Female_i \times Married_i) + \gamma' X_i + \delta_s + \varepsilon_i \quad (2)$$

where UW_i denotes daily unpaid domestic and caregiving minutes and $Married_i$ identifies currently married workers. The interaction coefficient β_3 measures whether the gender difference in unpaid work is larger among currently married workers.

Threefold Oaxaca-Blinder decomposition is as follows:

$$\overline{UW_W} - \overline{UW_M} = (\overline{X_W} - \overline{X_M})\widehat{\beta_M} + \overline{X_M}(\widehat{\beta_W} - \widehat{\beta_M}) + (\overline{X_W} - \overline{X_M})(\widehat{\beta_W} - \widehat{\beta_M}) \quad (3)$$

Whereas, W and M denote women and men. The first term is the endowment (explained) component, the second is the coefficient component, and the third is the interaction component. In the paper, these components are reported as 6.6, 215.4 and -8.7 minutes per day, respectively.

Survey weighted linear regressions are estimated as specified in Equations (1) and (2). All models apply the final TUS survey weight (MLT/100), with standard errors clustered at the first-stage sampling-unit level. Equation (1) estimates the adjusted gender differential, while Equation (2) tests whether this differential varies by marital status. A threefold Oaxaca-Blinder decomposition, shown in Equation (3), separates the raw gender gap into endowment, coefficient and interaction

components. All estimates are interpreted as associations within the worker population rather than causal effects.

4. Results

Table 1. Worker Characteristics and Daily Time Use (survey weighted)

Measure	Men	Women	Difference	N
Rural (%)	67.1	72.0	+4.9 pp	179,585
Currently married (%)	78.3	76.1	−2.2 pp	179,585
Unpaid family helper (%)	4.5	21.8	+17.3 pp	179,585
Employment minutes	436.3	297.4	−138.9	179,585
Unpaid domestic minutes	26.1	224.3	+198.2	179,585
Caregiving minutes	18.2	33.4	+15.2	179,585
Total unpaid work	44.3	257.6	+213.3	179,585
Combined burden	480.6	555.1	+74.4	179,585

Note: Percentages and minutes are survey weighted; N is unweighted.

Women workers spend about 5.8 times as much time on unpaid domestic and caregiving work as men. Although men record 138.9 more employment related minutes, women's combined burden is 74.4 minutes higher.

The difference reflects both participation and intensity where 94.4% of women workers perform unpaid domestic work on the diary day compared with 31.7% of men, and among those who participate women average 237.6 minutes against 82.3 minutes for men.

Table 2. Main Regression Estimates

Outcome	Female coefficient	SE	95% CI	R ²
Unpaid work, unadjusted	213.3	1.26	210.9 to 215.8	0.489

Unpaid work, adjusted	210.0	1.29	207.5 to 212.5	0.552
Combined burden, unadjusted	74.4	1.56	71.4 to 77.5	0.031
Combined burden, adjusted	88.7	1.47	85.9 to 91.6	0.342
Employment time, adjusted	-121.3	1.60	-124.4 to -118.1	0.433

Note: n=179,585. All female coefficients $p < 0.001$.

When adjustment is made, the unpaid work coefficient only decreases slightly to 210.0 minutes. The coefficient is increased to 88.7 minutes for the combined burden. This is a composition effect not inconsistencies, as women are over represented in jobs with lower total working hours. The coefficient of 82.5 minutes is an intermediate result when starting from a model that includes demographic and geographic controls without the employment category controls. Therefore, a difference in the combined burden of work among women and men becomes more pronounced when the two are compared in similar jobs.

Marital status clearly differentiates unpaid work. Women with a current marriage average 285.7 minutes of unpaid minutes, whereas men with a current marriage average 47.2 minutes of unpaid minutes. For never married workers, the figures are 119.8 and 28.5 minutes of unpaid minutes, respectively. The gender gap among married workers is adjusted in the adjusted interaction model to 145.2 minutes at 95% CI and $p < 0.001$ which is considerably larger than the gap among the other groups. This is an association, not a marriage effect. The gap across the alternative samples is then explored to determine if the outcome is related to worker classification, type of diary day, age band, or the type of employment.

The results show that robustness is substantively similar to the baseline estimate. The adjusted female coefficient drops to 204.1 minutes when unpaid family helpers are excluded. When considering only normal diary days it is 206.7 minutes and for prime age workers (25-54) it is 221.1 minutes. The gap is lower for regular salaried workers (154.6 minutes) than for own account workers (251.1 minutes) and unpaid family helpers (263.5 minutes), and lower in urban areas than in rural areas. These estimates do not prove that the difference is due to the form or place of employment, but indicate that the burden is not all on the shoulders of one group of workers.

Table 3. Heterogeneity and Robustness of the Adjusted Female Unpaid Work Coefficient

Specification and subgroup	Coefficient	95% CI	n
Baseline	210.0	207.5 to 212.5	179,585
Exclude unpaid family helpers	204.1	201.4 to 206.8	164,294

Normal diary days only	206.7	204.0 to 209.3	161,911
Age 25-54 only	221.1	218.3 to 223.9	144,230
Rural workers	224.6	221.7 to 227.4	112,896
Urban workers	180.0	175.5 to 184.6	66,689
Own-account workers	251.1	247.1 to 255.2	65,071
Unpaid family helpers	263.5	257.0 to 270.1	15,291
Regular salaried workers	154.6	150.8 to 158.5	49,665
Casual labourers	199.1	195.2 to 203.0	45,603

All coefficients $p < 0.001$.

State level comparisons provide a second form of descriptive heterogeneity. Among the 26 States with at least 300 male and 300 female workers in the analytical sample, the unadjusted gender gap ranges from 138.9 minutes in Mizoram to 293.5 minutes in Himachal Pradesh. Because these State estimates are not adjusted for differences in worker composition, they are used only to document variation and not to infer regional cultural or policy effects.

Table 4. States with the Largest and Smallest Unadjusted Unpaid-Work Gaps (Survey Weighted Minutes per Day)

State	Women	Men	Gap	n
Himachal Pradesh	332.2	38.7	293.5	1,799
Bihar	326.1	56.9	269.2	9,956
Jharkhand	312.3	56.8	255.5	4,401
Madhya Pradesh	283.1	47.6	235.5	11,038
Rajasthan	273.4	40.0	233.4	10,364
State	Women	Men	Gap	n
Meghalaya	236.1	57.0	179.2	2,286

Nagaland	265.5	101.6	163.9	1,393
Tamil Nadu	200.4	38.8	161.6	10,170
Sikkim	241.9	87.7	154.2	1,507
Mizoram	196.5	57.6	138.9	2,429

Note: Five highest and five lowest of the 26 States with at least 300 male and 300 female workers in the sample. Estimates are unadjusted.

The State variation is driven mainly by differences in women's unpaid time, which ranges from 196.5 to 332.2 minutes across all 26 States, whereas men's unpaid time ranges from 28.7 to 101.6 minutes. The breadth of this spread suggests that a single national average masks substantial heterogeneity and motivates more detailed future analysis of regional labour market structure, household organisation and care infrastructure.

Table 5. Threefold Oaxaca Blinder Decomposition of the Raw Unpaid Work Gap

Component	Minutes per day	Share of raw gap
Raw gap	213.3	100.0%
Endowments	6.6	3.1%
Coefficients	215.4	101.0%
Interaction	-8.7	-4.1%
Total unexplained	206.7	96.9%

Only 3.1% of the raw gap is associated with differences in the observed characteristics included in the decomposition. The large unexplained component is consistent with substantial gendered differences in time allocation conditional on those characteristics, but it must not be interpreted as a direct measure of discrimination or gender norms. It may also capture unobserved characteristics, specification choices and differences in coefficients.

5. Discussion and Conclusion

The evidence reveals that despite women's increased participation in the labour market, the burden of unpaid work remains disproportionately on women. On average, women already counted as workers also do 210 more minutes per day of unpaid work in the household and on caregiving. Their lower employment time is partially balanced by their additional unpaid work and care

responsibilities, averaging about 210 minutes a day after adjustment. There is a greater and greater material difference between the burdened groups of women in the marital status interaction group and in the employment category heterogeneity group, where the latter group includes those women who are regular salaried workers. The patterns are consistent with that which emphasizes the importance of the conditions of women's work, as well as of their work.

This conclusion is further strengthened by the decomposition, although it does not constitute a causal argument. The raw gap can be attributed to differences in the measured composition of males and females only, and only to a limited extent. This does not imply that the unexplained portion is due to gender norms or discrimination; it may include differences in coefficients and or specification choices. Similarly, the State variation should not be interpreted culturally, but must be studied further.

The findings for labour policy and HRM show that care constraints are not just work external factors but are relevant to sustainable employment. Predictable access to childcare, work to work arrangements, mobility and effective implementation of statutory childcare provision may not just determine whether women are in work, but the stress of their work. Finally, the smaller differences between regular salaried workers are consistent with the hypothesis that more formal work arrangements may be linked to a lower double burden, though the absence of a causal interpretation is due to the selection into these kinds of jobs.

These conclusions have a number of limitations. The design is cross sectional, both in terms of employment and conditions on employment, which means that selection into work cannot be addressed; a single diary day is observed per respondent; and household composition is not included for the reasons set out in Section 3. Further research needs to include young children and other possible care sharers, use the repeated cross sections from 2019 and 2024 and explore the occupation specific pathways. The general message is clear as to measure labour market inclusion, participation and employment rates are not enough; the distribution of total paid and unpaid working time also needs to be measured.

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