Gender Wage Disparities and Structural Changes in India's Labor Market

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Abstract:

Structural transformation is central to productivity and wage growth in developing economies. However, it remains unclear whether women benefit from this process to the same extent as men, particularly in labor markets characterized by informality and occupational segregation. This paper examines how recent structural transformation has shaped gender wage dynamics in India between 2018-19 and 2023-24. Using data from the Annual Periodic Labor Force Survey (PLFS), I analyze gender-disaggregated wages and employment shares across industries, rural-urban sectors, and employment status. I apply a wage growth decomposition framework following Hasan and Molato (2019) to separate changes in average wages into within-category wage growth and structural change effects arising from shifts in employment composition.

I find that wage changes for both men and women are driven primarily by within-category effects rather than structural change. However, structural change effects are consistently unfavorable for women across industries and sectors, indicating that recent occupational shifts have disproportionately concentrated women in lower-paying segments of the labor market. In real terms, female wages declined across most sectors, despite modest gains for men, resulting in widening gender wage disparities. These findings suggest that recent structural transformation in India has not translated into improved wage outcomes for women.

Introduction:

Structural transformation, the reallocation of labor from low to higher-productivity sectors, is a central mechanism through which economic growth is expected to raise wages in developing economies. Canonical models of structural transformation emphasize movements out of agriculture, expansion of employment in the formal sector, and urbanization as a pathway to higher earnings. However, recent evidence suggests that these processes can generate uneven gains when access to higher-paying jobs differs systematically across workers, particularly by gender.

Women often face distinct labor market frictions that limit their ability to benefit from structural change. These include concentration in informal employment, occupational segregation, and barriers to mobility across sectors and job types. As a result, aggregate wage growth can coexist with stagnant or declining wage outcomes for women if employment reallocation disproportionately favors men. Understanding whether structural transformation translates into improved wage outcomes for women is therefore critical for assessing the distributional consequences of economic growth.

India provides a salient context to study these dynamics. Despite sustained economic growth, female labor market outcomes remain weak, characterized by low participation rates, high informality, and persistent gender wage gaps. Recent structural shifts have also been marked by labor movement into low-productivity sectors such as construction rather than into manufacturing or modern services. These patterns raise concerns that structural transformation may raise average wages without improving the quality of employment available to women. At the same time, selective labor force participation, particularly among younger and more educated women, complicates the interpretation of observed wage trends.

This paper examines how recent structural change has shaped gender wage dynamics in India between 2018–19 and 2023–24. Using nationally representative data from the Periodic Labour Force Survey (PLFS), I analyze gender-disaggregated wages and employment shares across industries, rural and urban sectors, and employment status categories. I apply a wage growth decomposition framework following Hasan and Molato (2019) to separate changes in average wages into within-category wage growth and changes driven by employment reallocation.

The results show that wage changes for both men and women are driven primarily by within-category effects rather than by structural change. However, the role of employment reallocation differs sharply by gender. Structural change contributes modestly and positively to male wage growth but offsets wage gains for women across industries and employment types. In real terms, women experience declines in average wages across most categories, while men see modest gains, leading to widening gender wage disparities. These findings highlight how unequal access to higher-paying jobs can shape gendered wage outcomes during periods of structural transformation.

Review of Literature:

A large literature examines structural transformation as a key driver of productivity growth and wage increases in developing economies. Early work emphasizes the reallocation of labor from low-productivity agriculture to higher-productivity non-agricultural sectors as a central mechanism underlying economic development. More recent studies document that while such reallocation has contributed to aggregate growth, its implications for employment quality and wage distribution are more ambiguous, particularly in contexts characterized by high informality.

Within the Indian context, several studies highlight concerns around jobless growth and the limited expansion of high-quality employment. Despite sustained GDP growth, labor reallocation has been disproportionately concentrated in low-productivity sectors such as construction rather than in manufacturing or modern services, raising questions about the extent to which structural change has translated into meaningful improvements in labor market outcomes. This literature suggests that aggregate indicators may obscure important heterogeneity in wage dynamics across workers.

A related strand of research focuses on gender disparities in labor market outcomes. Studies consistently document persistent gender wage gaps in India, with women more likely to be employed in informal, low-paying, and precarious forms of work. Sundari (2020), drawing on Nayyar (2012), evaluates the quality of women's employment along dimensions such as sectoral distribution, employment regularity, formality, and earnings, and finds little evidence of qualitative improvement in women's employment outcomes despite structural change. Other work shows that gender wage gaps vary substantially across employment types and sectors, with particularly large disparities in casual and self-employment.

Despite these insights, relatively little work directly examines how structural transformation interacts with gender wage dynamics. Existing studies typically analyze either aggregate wage growth or gender wage disparities in isolation, without explicitly decomposing wage changes into within-sector wage growth and employment reallocation effects. An important exception is Hasan and Molato (2019), who develop a wage growth decomposition framework to quantify the contribution of structural change to aggregate wage growth in India. However, their analysis does not focus on gender-differentiated outcomes.

This paper builds on and extends this literature by applying the Hasan and Molato (2019) decomposition framework to examine gender-specific wage dynamics during a recent period of structural change in India. By disaggregating wages and employment shares by gender across industries, sectors, and employment status categories, the paper provides new evidence on whether and how structural transformation has contributed to widening or narrowing gender wage gaps.

Data and Methodology:

Data

This paper uses data from the Periodic Labor Force Survey (PLFS), conducted annually by the National Sample Survey Office (NSSO) and published by the Ministry of Statistics and Programme Implementation (MoSPI). The PLFS provides nationally representative information on employment status, industry, earnings, and demographic characteristics of individuals in India.

To examine recent changes in gender wage dynamics in the context of structural transformation, I focus on two survey rounds: 2018-19 (second round) and 2023-24 (sixth round). These rounds capture labor market outcomes before and after major economic disruptions, including the COVID-19 pandemic, and allow for an assessment of short-run structural shifts in employment and wages.

The main variables of interest are average daily wages for men and women and employment shares across three dimensions: (i) industry, (ii) sector (rural versus urban), and (iii) employment status. Industries are classified using the National Industrial Classification (NIC) 2008. Employment status is categorized as casual wage workers, regular wage/salaried workers, and self-employed workers. Sector is defined by the rural–urban classification provided in the PLFS.

The analysis is restricted to working-age individuals who report positive earnings. All monetary values are converted to real terms using the Consumer Price Index (CPI), with CPI-Combined used for economy-wide estimates and CPI-Rural and CPI-Urban used for sector-specific deflation. Survey weights provided by the PLFS are applied throughout to ensure national representativeness.

Methodology

To study the relationship between structural transformation and gender wage dynamics, I apply a wage growth decomposition framework following the work of Hasan and Molato (2019). This approach decomposes changes in average wages into two components (i) changes arising from shifts in employment composition across sectors, locations, or employment types , and (ii) changes arising from wage growth within a given category (within-category effects). The framework is as specified below:

$$\Delta W_t = \sum_{i=0}^{n} \Delta E_i \, W_{i_{t+1}} + \sum_{i=0}^{n} E_{i_t} \, \Delta W_i$$

ΔW_t captures the change in the average daily wage in nominal terms; ΔE_t^i is the share of workers within a given sector, area or occupation of type i in year t; and W_t^i is the average earnings of workers in that sector, area or occupation of type. While the first term of the equation captures the growth in earnings caused by the movement of workers from one group to another which is attributed to structural change, the second term captures the growth of average earnings a result of rising earnings within a group.

While the equation as specified above highlight key trends with respect to the nominal wage, it fails to adjust for inflation and as a result, nominal figures tend to be misleading at times. To understand the nature of wage growth in the Indian economy, the wages have been deflated using CPI-Combined, CPI-Rural and CPI-Urban Base Year 2012 to account for wage growth in real terms across industries, sectors and type of employment of status.

$$g_N = \sum_{i=1}^{n} \Delta \; E_i R_{i_{\frac{2023}{2018a}}} + \sum_{i=1}^{n} \Delta \, E_{i_{2018}} g_i \; \frac{W_{2018_i}}{W_{2018_a}}$$

g_N captures the real growth in wages across the economy, while $R_{i_{\frac{2023}{2018a}}}$ measures the growth of industry/sector/type-specific wage in 2023 over the economy-wide wage in 2018 in real terms. g_i captures in the growth in the average daily wage in the chosen category from 2018-2023, and $\frac{W_{2018_i}}{W_{2018_a}}$ captures the growth of the category-specific wage in 2018 over the economy-wide wage in 2018 in real terms.

Analysis and Descriptive Statistics

This section presents descriptive evidence on employment composition and gender wage disparities to motivate the subsequent wage decomposition analysis.

Chart 1 indicates the percentage distribution of workers in regular-wage work as per usual status in India. This measure provides insights into the Lewis process, which predicts a gradual shift of workers from informal and casual employment toward more stable wage employment as economies develop. Contrary to this prediction, the chart reveals a stagnation, and in recent years, a decline in the share of workers engaged in regular wage employment. This pattern suggests a reversal or weakening of structural transformation in the Indian labor market, with implications for job quality and wage growth, particularly for women, who are disproportionately represented in informal employment.

Chart 1: Percentage Distribution of Workers in Regular-Wage/Salaried Work as per Usual Status in India

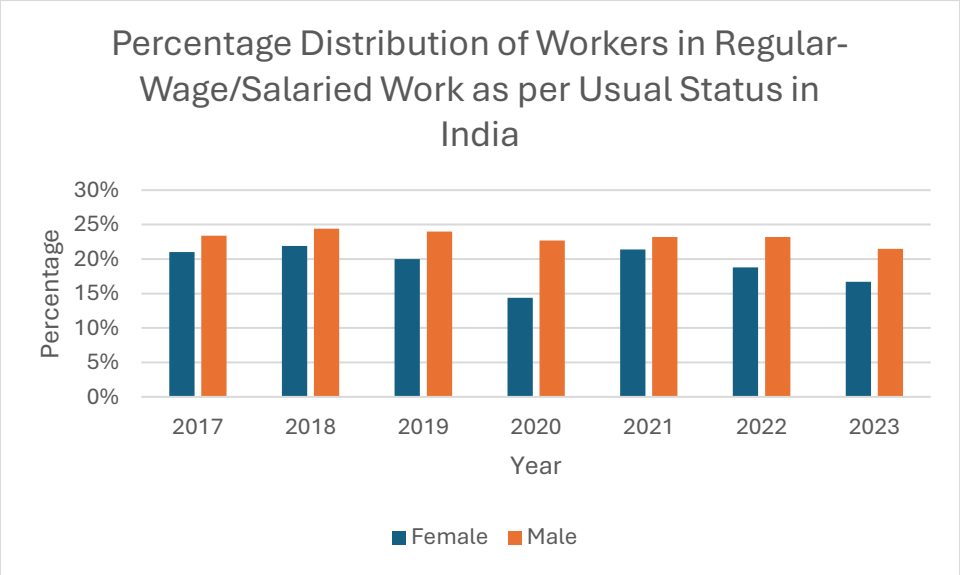

Table 1 reports the gender wage gap across major economic activities on aggregate basis as defined by the International Labour Organization for the period 2018-2023. The gender pay gap is calculated as the difference between the average monthly earnings of men and women, expressed as a percentage of male earnings. Several patterns are evident from the table.

First, the onset of the COVID-19 pandemic in early 2020 coincides with sharp fluctuations in the gender wage gap across most sectors, indicating differential vulnerability of male and female earnings to economic shocks. Second, manufacturing and mining and quarrying exhibit relatively lower gender wage gaps in recent years compared to agriculture and construction. In

manufacturing, the wage gap narrowed to 4.9 percent in 2019 but widened substantially following the pandemic, suggesting that gains in gender wage convergence in higher-productivity sectors may be fragile.

In contrast, construction consistently exhibits the highest gender wage gap, reaching over 65% in 2023. This reflects both lower average wages for women and their concentration in lower-paying tasks within the sector. Negative wage gaps observed in services-related sectors indicate instances where women's average earnings exceed those of men, though these patterns likely reflect occupational composition rather than broad-based parity.

Overall, the descriptive evidence points to persistent and sector-specific gender wage disparities in India. Combined with stagnation in regular wage employment, these patterns suggest that recent structural changes may not have improved the quality of employment available to women. These findings motivate a closer examination of whether observed wage dynamics are driven by within-sector wage growth or by gendered shifts in employment composition across sectors, employment types, and locations.

Table 1: Gender Wage Gap across various Economic Activities (Aggregate) in % terms

Year	2018	2019	2020	2021	2022	2023
Agriculture	38.66	71.01	136.85	45.96	48.88	42.35
Construction	69.19	71.20	61.35	66.56	60.59	65.13
Manufacturing	37.87	4.91	34.66	34.10	30.94	33.15
Mining and Quarrying	24.91	29.64	-1.24	33.08	13.58	38.67
Public Administration	44.77	22.53	46.41	45.04	47.45	44.68
Trade, Transportation, Food, Accommodation, Business and Other Services	-2.69	24.39	-11.05	-6.45	-8.19	-7.62

Source: International Labour Organization

Results:

Nominal

The wage growth decomposition results in nominal terms are presented in Table 2. For men, nominal wage growth is overwhelmingly driven by within-category effects across all dimensions, accounting for over 95% of total wage growth, while structural change plays a limited but positive role for industry and employment type and a modest negative role across sectors. For women, within-category effects dominate nominal wage growth even more strongly, exceeding 100% across all categories, while structural change effects are negative for industry and employment type and strongly positive across sectors. The negative structural change contributions for women in industry and employment type indicate that employment reallocation

over this period shifted women toward lower-paying industries and job types, offsetting within-category wage gains. In contrast, the positive structural change effect at the sectoral level suggests that movement across rural–urban sectors contributed positively to nominal wage growth for women.

Table 2: Results of the Wage Decomposition in Nominal Terms

Category	Structural Change		Within Effect	
	Male	Female	Male	Female
Industry	4.08%	-27.64%	95.92%	127.64%
Sector	-2.52%	70.06%	102.52%	170.06%
Type	3.33%	-67.09%	96.67%	167.09%

Source: Author's Calculation

Real

While the figures in nominal terms provide an understanding of the distribution between the different components of average wage growth across gender, only real wages can accurately highlight the quality of change in India's labour market. The results for the same are presented below:

Table 3: Results of the Wage Decomposition in Real Terms

Category	Structural Change		Within Effect	
	Male	Female	Male	Female
Industry	**29.06%**	**48.53%**	**70.94%**	**51.47%**
Sector	**-31.24%**	**33.60%**	**131.24%**	**66.40%**
Type	**25.24%**	**60.73%**	**74.76%**	**39.27%**

Source: Author's Calculation

The decomposition results were further analyzed across various divisions under the categories to understand the overall quality of change over 2018-23. Categories are classified as progressive if they witnessed an increase in their real wage, and regressive if a reduction in their real wage was observed. Data concerning the same has been presented in Table 6, as shown below:

Table 4: Changes in Real Wages across 2018-23 by Industry

Category	Real Wage in 2018		Real Wage in 2023		Growth in Real Wage	
Industry	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**

Agriculture	210.17	105.71	224	96.17	7%	-9%
Construction	238	121.71	249.24	134.71	5%	11%
Manufacturing	336.15	120.92	330.08	118.17	-2%	-2%
Mining & Quarrying	536.7	266.93	525.69	290.02	-2%	9%
Public Administration & Defence	667.85	483.2	666.87	501.37	-0.15%	3.76
Services	382.78	349.45	391.32	330.55	2.23%	-5.41%
Utilities	499.65	335.07	453.19	318.96	-9.30%	-4.81%

Source: Author's Calculation

Table 5: Employment Share by Industry

Category	**Employment Share in 2018**		**Employment Share in 2023**		**Growth in Employment Share**	
Industry	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Agriculture	35.63%	40.33%	31.46%	48.57%	-4.17%	8.24%
Construction	15.45%	8.93%	17.81%	5.49%	2.36%	-3.44%
Manufacturing	12.77%	18.14%	12.12%	15.59%	-0.65%	-2.55%
Mining & Quarrying	0.52%	0.24%	0.38%	0.96%	-0.14%	0.72%
Public Administration & Defense	2.12%	2%	1.94%	1.49%	-0.18%	-0.51%
Services	32.77%	29.93%	35.47%	28.42%	2.70%	-1.51%
Utilities	0.74%	0.44%	0.82%	0.34%	0.08%	-0.10%

Source: Author's Calculation

Based on the figures presented above, a progressive change is observed in the Construction, Mining and Quarrying and the Public Administration and Defense industries among women, while men witnessed a progressive change in the Agriculture, Construction and Services industries respectively. While on aggregate the share of individuals employed in the agricultural sector increased from 36.46% to 37.23%, the proportion of the male workforce engaged in the agricultural sector reduced from 35.63% to 31.46%. However, the share of the women workforce

has increased substantially from 40.33% to 48.57%, suggesting the reverse of the Kuznets process.

In general, the agriculture and service industries highlight widening gender wage gaps, with a reduction in women's average daily wage as that earned by men rises. However, the construction and public administration & defense activities are exceptions where female wage growth outpaces the real growth among males. While this increase in wages have been accompanied by an increase in the proportion of individuals engaged in the respective sectors, it is important to note that these trends and patterns are observed in low value added activities. Moreover, it is important to analyze these trends in regard to the overall quality of structural transformation within India's labor market.

Table 6 captures the trends in real wages across rural and urban sectors.

Table 6: Changes in Real Wages across 2018-23 by Sector

Category	Real Wage in 2018		Real Wage in 2023		Growth in Real Wage	
Sector	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Rural	242	133.54	252.44	118.19	4.30%	-11.49%
Urban	413.94	306.99	418.23	275.69	1.04%	-10.20%

Source: Author's Calculation

Table 7: Employment Share by Sector

Category	Employment Share in 2018		Employment Share in 2023		Growth in Employment Share	
Sector	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Rural	67.58%	65.86%	23.33%	22.87%	-44.25%	-42.99%
Urban	32.42%	32.14%	31.21%	27.46%	-1.21%	-4.68%

Source: Author's Calculation

During 2018-23, trends in the real wage across rural and urban sectors reveal rising gender disparities. While rural areas witnessed an increase in male wage by 4.3%, a sharp decline of 11.49% was observed among females – indicating growing disparities in income opportunities and returns for rural women. A similar observation was recorded in the urban sector. These findings suggest that despite the perception of better job access and formal employment in the urban sector, some sort of deterioration in wage outcomes for women exists – this could occur partly due to occupational segregation or a shift towards low-paying roles. A possible factor contributing to these trends and patterns could be rural-urban migration, particularly among the male workforce. Conversely, women are left behind in either low-wage rural work or may enter

jobs in the urban sector where the pay may be lower. This may worsen gender disparities in both regions as rural women face stagnant or declining opportunities.

Table 8: Changes in Real Wages across 2018-23 by Employment Status Type

Category	**Real Wage in 2018**		**Real Wage in 2023**		**Growth in Real Wage**	
Type	Male	Female	Male	Female	Male	Female
Casual Labor	179.33	102.66	191.06	110.16	6.54%	7.31%
Regular-Wage	430.34	336.18	425.15	320.2	-1.21%	-4.75%
Self-Employed	297.68	132.08	311.63	112.89	4.68%	-14.53%

Source: Author's Calculation

Table 9: Employment Share by Employment Status Type

Category	**Employment Share in 2018**		**Employment Share in 2023**		**Growth in Employment Share**	
Type	Male	Female	Male	Female	Male	Female
Casual Labor	24.85%	32.42%	23.33%	22.87%	-1.52%	-9.55%
Regular-Wage	27.17%	34.52%	28.02%	27.36%	0.85%	-7.16%
Self-Employed	47.98%	49.77%	48.64%	49.77%	0.66%	0.00%

Source: Author's Calculation

Table 8 which highlights changes in real wages across employment status type suggests a decline in the real wage among females for regular-wage and self-employed workers, while an increase was observed in case of casual laborers. Among males, a decline is observed in the real wage for regular-wage workers – but this has been accompanied by an increase in the proportion of males engaged in regular-wage work, indicative of the Lewis process. However, among women – a fall is observed in the proportion of individuals engaged in regular-wage work and causal labor; only an increase in employment share by type is witnessed for the self-employed. From the perspective of the Lewis model, the sharp decline in the real wages of self-employed females indicates the overall process of structural transformation in India is not gender inclusive as the women workforce do not benefit from shifts in employment. Though some wage growth in casual labor suggests the possibility of increased regulations cornering labor markets, the decline

in female real wage across regular-wage work and the self-employed category, raise concerns about a gendered and incomplete structural transformation, where the gains from economic growth are unevenly distributed where a substantial proportion of the women workforce are increasingly concentrated in low-paying and declining sectors.

The compounded annual growth rates of real wages across industry, sector and employment status type categories reveal a stark presence of gender wage disparities. While the male workforce witnessed an annual increase in their real wage, the female workforce recorded a substantial decline. This divergence in the CAGR across gender suggests that the recent structural changes and within-category effects have disproportionately impacted the female workforce in India. These figures have been presented in Table 10.

Table 10: Compounded Annual Growth Rates (Real Wages) across various Categories by Gender

Category	Male	Female
Industry	0.39%	-3.41%
Sector	0.43%	-3.48%
Type	0.71%	-2.62%

Source: Author's Calculation

Conclusion and Policy Implications

This study delved into evolution of real wages in India from 2018-23, with a focus on gender disparities across industries, sectors and employment status type. Within-category effects were discovered to account for bulk of the changes among both men and women. It is also discovered that among women, within-sector changes often reinforce inequality rather than reduce it. Among the male workforce, positive wage growth is largely driven by improvements within existing sectors, showing increased productivity or better wages even without substantial structural shifts.

Furthermore, the sectoral decomposition shows that structural transformation has been predominantly uneven and gendered, with men experiencing modest shifts across sectors, while women often face wage declines due to occupational crowding or exclusion from high-paying opportunities. On a broader note, while structural change is underway in the Indian labor market, it is not gender-neutral; given that women are being pushed into less remunerative segments or failing to benefit from within sector gains.

To curb the negative structural change component among women, policies should aim to actively integrate women into high-paying and fast-growing sectors. Furthermore, investments in safe transport, affordable housing near workplace along with childcare support could help women transition better into better-paying jobs. Industrial and employment policies should be tailored to meet gender equity goals – by enhancing the prevalent working conditions across various jobs.

Future structural reforms and labor market interventions must incorporate clear gender-disaggregate targets and monitoring systems to ensure that women are not left behind in the ongoing structural transformation.

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