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An Analysis Of Persistent Gender Disparity In Employment: Evidence From India's Workforce, 2004-05 To 2023-24

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Abstract:
Gender disparity in employment remains a persistent challenge in India, despite significant economic progress and rising educational attainment. According to various NSSO's rounds on employment and unemployment, female workforce participation lags far behind that of her male counterpart. The participation of females in economic activity is very crucial for the development of any developing country, as females constitute 50% of the total population, so their economic participation can significantly contribute to the growth rate of the country.
The present research paper comprehensively analyses the gender dimension of employment and the gender disparity in employment over the two decades using the NSSO's unit-level data from 2004-05 to 2023-24, segmented by area, sector, status of employment and levels of education. The findings show a declining trend in the WPR for both males and females in both rural and urban areas, with the exception of the urban females, as well as a decrease in persistent gender disparity in employment in both rural and urban areas during the study period. Furthermore, an increase in both male-female WPR is observed in both secondary and tertiary sectors in both rural and urban areas, with the exception of urban males in the secondary sector during the study period. Gender disparity in employment in all three sectors increased in rural areas, while it decreased in urban areas during the study period. A shift in female employment from casual workers to regular and self-employment is also evident, irrespective of the area. The gender gap in employment declined only for self-employed in both rural and urban areas and the largest gender gap in employment is found for self-employment in rural areas and regular workers in urban areas during the study period. A U-shaped relationship between male WPR and levels of education is confirmed in all study years except the most recent one, 2023-24, irrespective of area; however, this relationship does not hold true for females throughout the study period. Furthermore, findings indicate that merely the attainment of higher education does not guarantee an increase in the number of females entering the workforce.
Keywords: *workforce participation rate, gender disparity, rural-urban, workforce, employment.*

1.INTRODUCTION

Females experience different kinds of disparities compared to their counterparts, such as disparities in Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment. The gender disparity in economic participation and opportunity is a major concern for any developing country like India. It reflects deep-rooted structural, social and economic inequalities. An increase in female participation in employment contributes to the growth rate of the country and also helps to make it more inclusive. It is also helpful to improve the quality of their own life and the quality of their household members. The participation of males and females in employment in their working age (15-59) is very crucial for the growth of a country. In India, for the working age in both rural and urban areas, the female workforce participation rate is substantially lower than the male workforce participation rate (various NSSO rounds). Accordingly to the NSSO's PLFS 2023-24, male workforce participation rate for the working age (age≥15 and age ≤59) is 81.7 per cent in rural areas and 78.1 per cent in urban areas, while for females, it is 50 per cent in rural areas and 28.8 per cent in urban areas. Across the area, rural females face limited employment opportunities compared to rural males, mainly due to their dependence on agricultural activities, while urban females continue to be concentrated in low-paying and informal sector jobs(NSSO 2019).

Gender-biased structural transformation is indicated by the sectoral pattern of employment, which also shows that females are more likely to work in the primary sector while males predominate in the secondary and tertiary sectors (Kaposos, Silberman & Bourmpula, 2014; Mehta & Verck, 2021).

Disparities in employment status are also noticeable in the Indian labour market. In all employment statuses, including self-employment, regular work and casual work, female participation in the workforce lags well behind that of males. Furthermore, while males are more likely to have regular jobs, females are more likely to engage in self-employment and casual work (PLFS 2023-24; Papola, 2012).

Even among highly educated groups, women's WPR is still lower than men's. Education level plays a significant role in increasing female engagement in the workforce. It shows that without appropriate

institutional frameworks, education by itself does not guarantee equitable employment possibilities for women (Das & Desai, 2020).

All of these dimensions of gender disparity in employment highlight the need for inclusive policy measures that increase women's access to formal job opportunities, vocational training, and skills in all fields and regions.

2. LITERATURE REVIEW

Given the importance of addressing gender parity in employment in the development process, a sizable literature has emerged over recent decades, addressing the different dimensions of this complex issue.

In addition to highlighting the biased character of development policies and procedures, Boserup's(1970) groundbreaking work on women's involvement in economic development addressed the contributions made by women to important economic sectors. A country's economic growth is likely to benefit from reducing gender discrimination in the workplace, which will encourage women to participate in large numbers (Esteve-Volart, 2004; Tansel, 2001). Reducing gender disparity through women's employment can empower women and increase their ability to exercise agency and choice in important areas of their lives (Desai and Jain, 1994; Kabeer, 2012; Mammen and Paxson, 2000).

The nature of female labour force participation and its relationship to economic growth and development have been extensively studied due to the complexity of the factors influencing it, including growth, education, fertility, and the cultural and normative context of society. The U-shaped relationship between women's labour force participation rates and economic development is one of the most talked-about phenomena (Boserup, 1970; Fatima and Sultana, 2009; Goldin, 1994; Mammen and Paxson, 2000; Pampel and Tanaka, 1986; Schultz, 1990; Tansel, 2001). However, there has been much discussion on the data supporting this relationship (Gaddis and Klasen, 2014).

A key component of women's economic independence is their employment, which is also seen as a reflection of their general social standing (Mammen and Paxson 2008).

Numerous studies demonstrate that during the post-reform period, the growth rate of the female employment rate decreased and was much slower than the GDP growth rate (Kambo & Kaur, 2012; Sankar Kumar Bhaumik, 2013; T.S. Papola, 2013).

Other studies, except the year 2004–05, documented a downward trend in the female labour participation rate by the usual principal employment status from 1993–94 to 2009–10 in both rural and urban areas (Indrani Muzumdar & Neetha N, 2011).

During the post-reform period, there was a higher gender gap in workforce participation in urban areas compared to rural areas, and a greater variation in female employment in both rural and urban areas compared to male employment (Himanshu, 2011).

An essential determinant of the degree and patterns of economic development is the gender distribution of the labour force among three main economic sectors, namely primary, secondary and tertiary. Rural male-female employment (WPR) is highest in the primary sector, whereas urban male-female employment is highest in the service sector, but female employment is lower than her male counterpart in all three sectors of economic activity (NSSO's EUS). It indicates that sector-wise gender disparity in employment also exists in the Indian labour market.

Additionally, female employment increased in the secondary and tertiary sectors in both rural and urban areas, whereas it slightly decreased in the primary sector (Sharma & Saha, 2015).

One significant indicator of the quality of female employment is the status of women's employment as self-employed, regular workers and casual workers. Rural women are less likely to be regular employees and more likely to be self-employed or casual workers(NSSO's EUS). Since women work primarily as self-employed or casual workers in the agricultural sector, the quality of rural female employment is poor (Srivastava & Srivastava, 2010). Furthermore, regardless of employment status, female employment is lower than male employment. Therefore, the quality of work for women's employment is also an issue.

One of the key determinants of female labour force participation is education. Theories of human capital emphasize how crucial education is to job results. According to the literature on human capital, higher levels of education result in both enhanced production and higher labour force participation (Ejaz, 2007; Psacharopoulos and Tzannatos, 1989; Tansel, 2001).

The research has long demonstrated that greater human capital results in higher pay, which in turn encourages women to labour in the market. However, there is by no means a clear correlation between female labour force participation and educational achievement. One general finding is that there is

frequently a U-shaped relationship between education and female labour force participation in emerging nations.

Klasen and Pieters (2012) examine the U-shaped association between education and female labour force participation in urban India using data from the National Sample Survey Office (NSSO) from 1987 to 2005. Das (2006) further supports the U-shaped relationship by using NSSO data from 1983 to 2000, showing that highly educated women remain out of the labour force due to an economic effect, while uneducated women participate in the workforce at higher rates. A U-shaped relationship was also discovered by Olsen and Mehta (2006) using NSSO data from 1999 to 2000.

Additionally, some research indicates a negative correlation between the level of education and the female workforce participation rate (Das & Desai, 2003; Dasgupta & Goldar, 2005; Kingdon & Unni, 1997).

Segregation is the tendency for males and females to be employed in distinct occupations. Because of this division, there are disproportionately "female" or "male" gendered vocations. Stated differently, the unequal distribution of males and females across various occupational categories is referred to as occupational segregation by gender. Several studies have addressed the topic of gender segregation in the workplace (Anker, 1998; Swaminathan and Majumdar, 2006; Rustagi, 2010).

While several studies have examined gender disparities in employment in the Indian labour market, they have mostly focused on aggregate participation trends without focusing on integrating the intersection of area, sector, employment status and education attainment dimension. Furthermore, a new study employing disaggregated and time comparable data is necessary in light of the recent shifts in female employment participation observed in the most recent Periodic Labour Force Survey (PLFS). In order to close these gaps, the current study looks at gender disparities in employment across sectors, areas, employment status, and educational attainment. It also offers a thorough analysis of changing trends and their policy implications for a workforce that is gender equitable in the Indian labour market.

In the present study, an attempt is made to examine the gender dimension of employment in India over the period 2004-05 to 2023-24. The present analysis depends upon the nationally representative NSSO's employment data set to understand the nature of labour market participation and persistence of gender disparities in employment.

The paper is systematically organised into five sections. Section-1 discusses the conceptual framework, key definitions, data sources and the research methodology employed in the research paper. Section-2 analyses the area-wise as well as sector-wise trends in gender employment and also highlights the extent of gender disparity in employment. Section-3 examines the dynamics of gender employment and gender disparity in employment across the different categories of employment status. Section-4 explores the role of educational attainment on gender employment and its implications for the persistence of gender disparity in employment. Section-5 presents the policy-relevant conclusion.

3. Section-1

3.1. Concept and Definitions:

The various concepts and definitions related to employment given by NSSO (National Sample Survey Organisation) used in the research paper are as follows:

Workforce Participation Rate: It measures the proportion of the total population which is engaged in work.

Female Workforce Participation Rate: It measures the proportion of the female population which is engaged in work.

Male Workforce Participation Rate: It measures the proportion of the male population which is engaged in work.

The different concepts of workforce participation are as follows:

Usual Principal Status (US): usual principal activity status indicates the activity status on which a person spends a long time during the 365 days before the date of the survey.

Usual Principal and Subsidiary Status (UPSS): when the usual principal activity status and subsidiary activity status of a person are taken together, it is known as the US+SS activity status of the person. A person is said to be (US+SS) workers if he/she works either in usual principal status or in subsidiary activity status. Subsidiary status indicates the activity status on which a person spends 30 days or more before the date of the survey.

3.2. Data Sources and Research Methodology:

NSSO's unit-level data from the employment and unemployment rounds: 61st (2004-05), 66th (2009-10), 68th (2011-12), PLFS 2017-18 and PLFS 2023-24 are used in the present study. The sample of the

working-age population (age≥15 and age ≤59) for all of India has been taken for the study. Employment is measured in terms of the workforce participation rate. Gender disparity in employment is calculated by the gap between the male workforce participation rate(%) and the female workforce participation rate(%). The study covers the period 2004-05 to 2023-24, allowing an examination of gender disparity in employment over nearly two decades. The study uses a comparative and descriptive analytical approach to assess the extent and trends in gender disparity in employment.

4. Section- II

Table-1: Area-Wise Workforce Participation Rate (in %) by US+SS

Rounds	2004-05	2009-10	2011-12	2017-18	2023-24
Rural Male	87.1	83.4	82	75.2	81.7
Rural Female	51.5	39.2	37.2	25.5	50
Urban Male	80.2	78.5	78.4	74.2	78.1
Urban Female	24.2	19.8	21	19.8	28.8

Note: Sample individuals belong to 15-59 age groups.
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

From table 1, it is clear that both rural male-female WPR declined up to 2017-18, followed by partial recovery for male WPR and remarkable recovery in female WPR in 2023-24. In the case of urban males, a relatively stable trend on WPR with only mild fluctuation is noticed, whereas a persistent low WPR of urban females is noticed over the study period. The WPR trends show that males' participation is fairly steady in both rural and urban areas, while females' participation is highly volatile in rural areas, and it remains consistently low(below 30%) in the urban area over the study period.

The analysis of WPR also reveals a gender gap in WPR in both rural and urban areas(Figure 1). In rural areas, the gender gap in employment was 35.6% in 2004-05 and it widened to nearly 50% in 2017-18, but it sharply declined to 31.7% in 2023-24. This reduction in the rural gender gap in WPR in recent years can be attributed to a significant increase in rural female WPR, which suggests a positive trend narrowing the gender disparity in employment in the rural labour market. In contrast, the urban gender gap in WPR has remained consistently higher than in rural areas throughout the study period. It ranged from 54% to 59% during 2004-05 to 2017-18, showing only a gradual fall of 7% from 2004-05 to 2023-24 and reaching 49.3% in 2023-24. It indicates that despite improvement, urban females continue to face structural barriers and social constraints which limit their participation in the workforce.

Table-2: Sector-Wise Workforce Participation Rate (in %) by US+SS

Rounds	2004-05	2009-10	2011-12	2017-18	2023-24
Primary Sector					
Rural Male	56.4	50.8	47	39.4	37.3
Rural Female	42.8	30.9	27.8	18.5	38.1
Urban Male	4.4	4.2	3.9	3.4	3
Urban Female	4.2	2.6	2.2	1.7	3.3
Secondary sector					
Rural Male	14.3	17	19	18.4	23.5
Rural Female	5.3	5.2	6.3	3.5	6.5
Urban Male	27.9	27.6	27.9	27	27.2
Urban Female	7.7	6.6	7.1	6	8.1
Tertiary Sector					

Rural Male	16.3	15.6	16	17.4	20.9
Rural Female	3.4	3	3.1	3.4	5.5
Urban Male	47.8	46.7	46.7	43.8	47.9
Urban Female	12.2	10.5	11.7	12.2	17.4

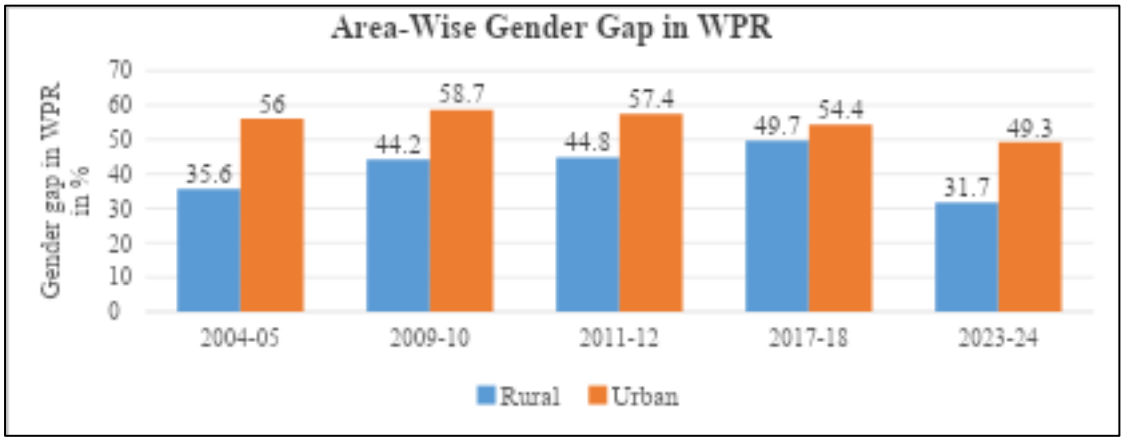
Note: Sample individuals belong to 15-59 age groups.
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

From table 2 and figure 2, the sector-wise analysis of WPR reveals a distinct pattern of gender disparity in employment across rural and urban areas. In the primary sector, rural male WPR declined from 56.4% in 2004-05 to 37.3% in 2023-24, while rural female WPR, after a sharp fall from 42.8% in 2004-05 to 18.5% in 2017-18, recovered strongly to 38.1% in 2023-24. This led to a reversal of the gender gap in recent years in rural employment, where more females are employed than males in the primary sector. It suggests that females are re-entering agriculture after a long phase of withdrawal. It supported with the earlier studies (NSSO's 2014; PLFS, 2023-2024) that documented female's "distress- driven" participation in the lack of alternative employment opportunity, while this recovery reduces the gender gap in employment rural area but it also raises the concern about the lack of adequate non farm job opportunities for the rural female which has been highlighted in the literature on feminization of agriculture (Agarwal, 2018). In contrast, in the urban area, both male-female WPR declined and remained below 5% over the study period. A minimal gender gap in WPR was noticed throughout the study period. In the secondary sector, in both rural and urban areas, male WPR remained relatively high and stable, whereas female WPR remained consistently low (nearly 9%) throughout the study years. In 2023-24, rural WPR for males recorded 23.5% compared to only 6.5% for females, resulting in a gender gap of 17% in WPR. Similarly, in urban areas, the gender gap in WPR persists at nearly 19% in the recent year 2023-24. It shows that despite the expansion of industrial and construction activities, females' absorption into the secondary sector has been very limited. It reflects structural barriers such as skill mismatch, workplace discrimination and mainly predominance of informal and casual work that discourage females' long-term engagement in employment. Klasen and Pieters (2015) also raised a similar concern and found that industrial expansion in India has largely bypassed female labour, mainly in urban areas.

In the tertiary sector, which is the most prominent source of urban employment for both males and females, Urban male WPR remained consistently around 44% to 48%, whereas urban female WPR rose from 12.2 % in 2004-05 to 17.4 % in 2023-24. However, the urban gender gap in WPR here continues to be the widest, standing at 30.4% in 2023-24. It aligns with the "missing women with urban work" debate, where rising education levels have not converted into proportional labour market outcomes(Deshpande, 2022). In the rural area, male WPR is higher than female with a highest gender gap in WPR of 15.4 % in the recent period 2023-24.

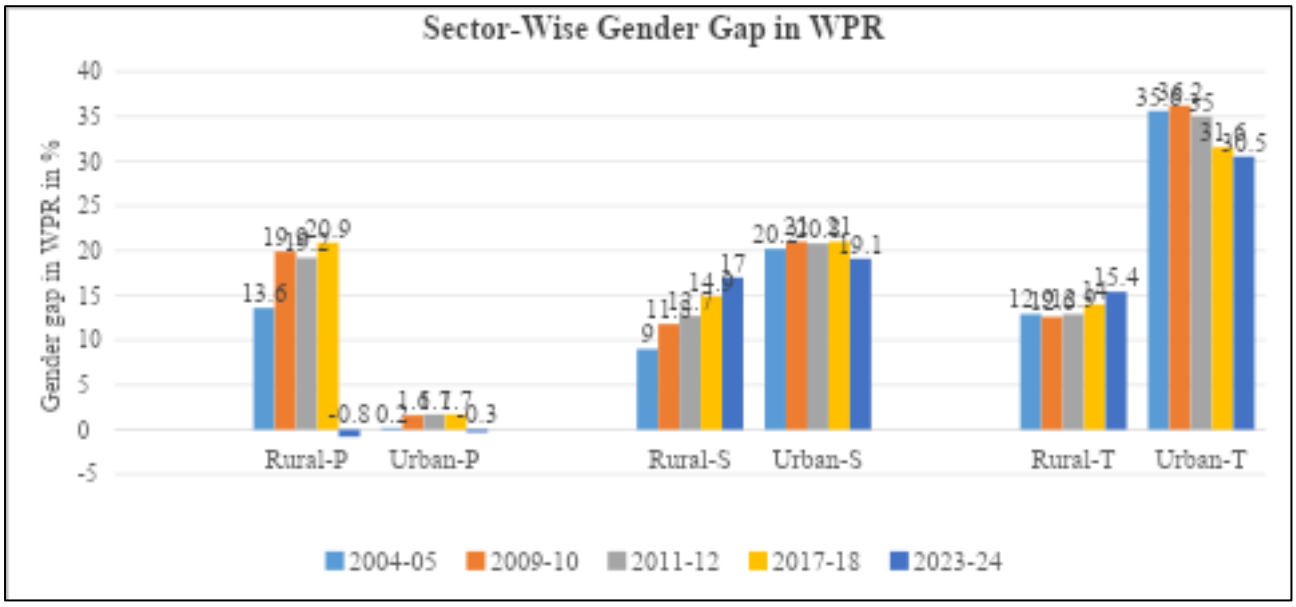
This sectoral analysis highlights that while the female role in all three sectors has recovered and slightly expanded in recent years, their participation in both secondary and tertiary sectors continues to lag far behind that of males, mainly in urban areas where service employment dominates.

Figure-1: Gender Gap in Employment (WPR) in both Rural and Urban Areas from 2004-05 to 2023-24



Source: Authors' estimates based on NSSO's unit level data, various rounds.

Figure-2: Gender Gap in Employment (WPR) in both Rural and Urban Areas in all three Sectors from 2004-05 to 2023-24.



Note:* P-Primary Sector, S- Secondary Sector, T- Tertiary Sector
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

5. Section-III

Table-3: Workforce Participation Rate (in %) by Status of Employment by US+SS

Rounds	2004-05	2009-10	2011-12	2017-18	2023-24
Self-Employed					
Rural Male	48.7	42.7	42.9	41.8	46.1
Rural Female	32.4	21.5	21.9	14.6	36.7
Urban Male	34.8	31.1	31.7	27.8	29.3
Urban Female	11.3	7.9	8.8	6.7	11.8
Regular Workers					
Rural Male	8.5	7.7	9	11.4	14.1
Rural Female	2	1.8	2.2	2.8	4.2
Urban Male	33.6	33.9	35.2	35.2	38.1
Urban Female	8.9	8	9.3	10.6	14.7
Casual Workers					
Rural Male	30	32.9	30.1	22	21.5
Rural Female	17.1	15.9	13.1	8.1	9.2
Urban Male	11.8	13.4	11.6	11.3	10.7
Urban Female	4	3.8	2.9	2.5	2.3

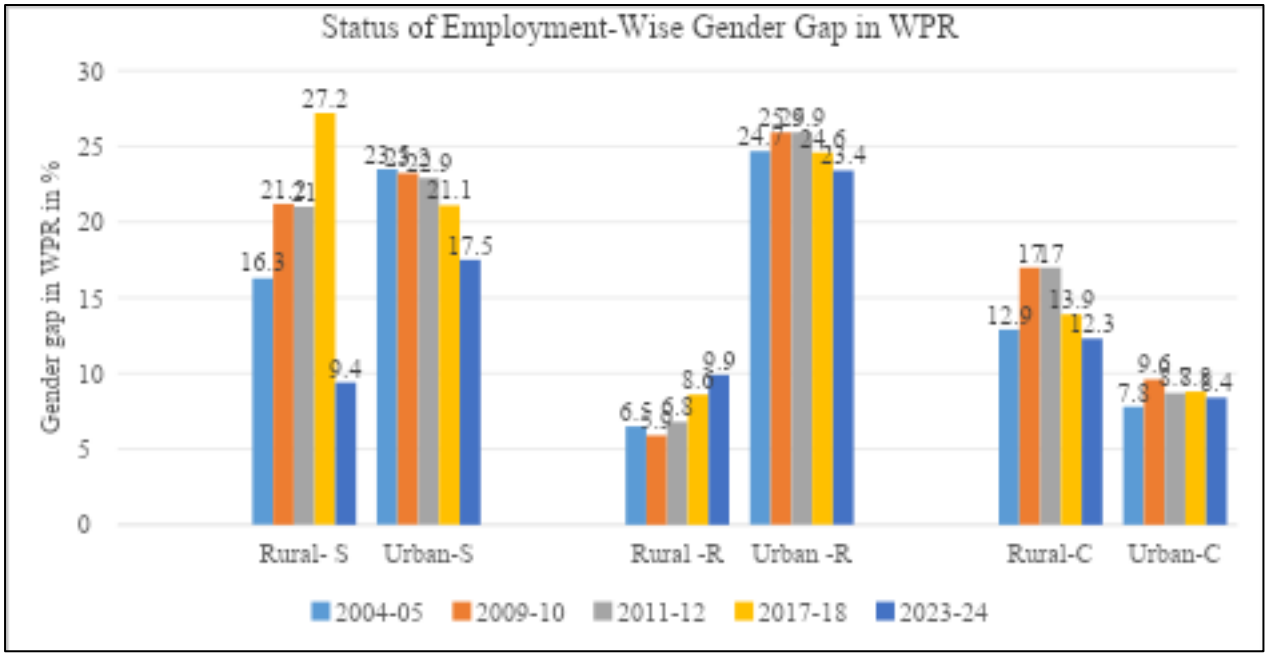
Note: Sample individuals belong to 15-59 age groups.
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

Table 3 and figure 3 show the status-wise distribution of employment and persistent gender disparity in employment in India across the rural and urban areas. In the rural area, self-employment remains the major status of work for both males and females. Rural male WPR remained consistently above 40% with a recovery in 2023-24 to 46.1% whereas rural female WPR sharply declined from 32.4% in 2004-05 to 14.6% in 2017-18, but a major recovery to 36.7% in 2023-24. The gender gap in employment in rural areas peaked at 27.2% in 2017-18 but sharply fell to 9.4% in 2023-24, which indicates a big recovery of rural females in self-employment in 2023-24. In the urban area, female WPR in self-employment remained consistently low at around 12 % compared to nearly 28% for males over the study period. Urban Gender gap in employment stood fairly high and persistent, nearly 21% and declined slightly to 17.5 % in 2023-24. It reflects that urban females still face stronger barriers in self-employment compared to rural females. Regular employment reveals the largest and persistent gender gap in employment, at around 23.4% in urban areas throughout the study period, as in urban areas, males enjoy the largest share as regular workers, while urban females' participation improves gradually but continues to lag far behind their counterparts. In the urban area, only 14.7% of urban females were in regular employment compared to 38.1% of urban males in 2023-24. In the rural area, male WPR showed a rising trend from 8.5% in 2004-05 to 14.1% in 2023-24, whereas female WPR as regular workers is extremely low, only 2% to 4% throughout the study period. The rural gender gap is small but widening from 6.5% in 2004-05 to 9.9% in 2023-24, while the urban gender gap in employment is large but slightly declined from 24.7% in 2004-05 to 23.4 % in 2023-24.

The primary source of rural female employment is casual labour. Female WPR declined from 17.1 % in 2004-05 to 9.2 % in 2023-24, while male WPR declined from 30% to 21.5% over the same period. Rural gender gap in employment remained stable at 12% to 17% over the study period and declined to 12.3% in 2023-24. In urban areas, both male and female WPR as casual workers slightly decreased from 11.8 % and 4 % from 2004-05 to 10.7% and 2.3% in 2023-24 respectively, which reflects a shrinking of job opportunities as casual labour. Urban gender gap in WPR increased from 7.8 % to 8.4% during the study period. It remained lower than in rural areas and relatively stable around 7% to 10% throughout the study period.

Overall, we find that rural females have regained ground in self-employment but remain significantly underrepresented in regular employment, which is considered the most secure and better-paying jobs. It reflects the persistent structural disparity in employment in India's labour market.

Figure-3: Gender Gap in Employment(WPR) in both Rural and Urban Area by Status of Employment from 2004-05 to 2023-24



Note:* S-Self-Employed, R-Regular Worker, C- Casual Worker
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

Table-4: Sector-Wise Workforce Participation Rate (in %) for Self-Employed by US+SS

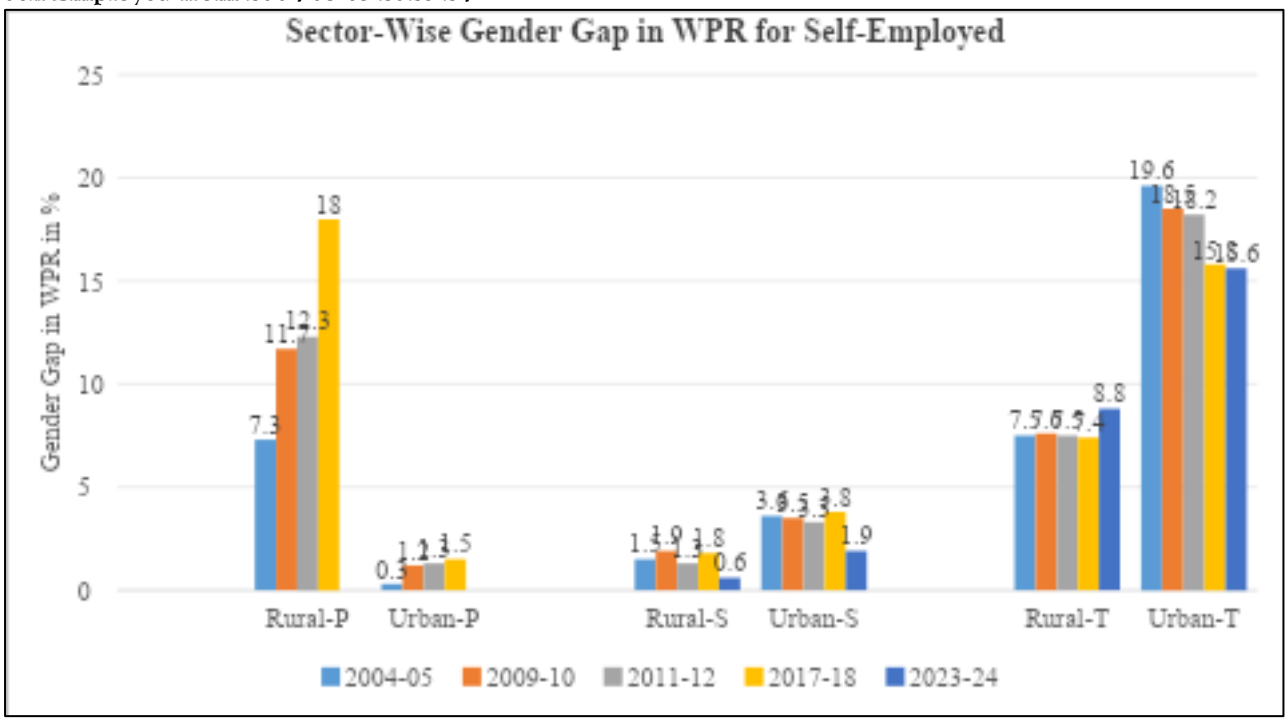
Rounds	2004-05	2009-10	2011-12	2017-18	2023-24
Primary Sector					
Rural Male	34.7	29.7	30.1	30	30.8
Rural Female	27.4	18	17.8	12	30.8
Urban Male	3	2.6	2.6	2.4	2.3
Urban Female	2.7	1.4	1.3	0.9	2.3
Secondary sector					
Rural Male	4.8	4.1	4.1	3.4	4.4
Rural Female	3.3	2.2	2.8	1.6	3.8
Urban Male	8.2	7.1	7.5	6.9	6.8
Urban Female	4.6	3.6	4.2	3.1	4.9
Tertiary Sector					
Rural Male	9.2	8.9	8.8	8.5	10.9
Rural Female	1.7	1.3	1.3	1.1	2.1
Urban Male	23.6	21.4	21.5	18.5	20.2
Urban Female	4	2.9	3.3	2.7	4.6

Note: Sample individuals belong to 15-59 age groups.
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

The sector-wise analysis of workforce participation as self-employed highlights the persistence of gender disparity in employment in all sectors in both rural and urban areas, as shown in table 4 and figure 4. In the primary sector, rural male WPR declined from 34.7% in 2004-05 to 30% in 2017-18 and marginally rose to 30.8 % in 2023-24, whereas rural female WPR sharply fell from 27.4% in 2004-05 to 12 % in 2017-18 and rose sharply to 30.8% in 2023-24. These unusual increases among rural female WPR suggest either a return to subsistence farming due to lack of opportunities in the non-farming sector or economic distress pushing them back into the primary sector. The Highest rural gender gap in WPR of 18% noticed in 2017-18. In the urban area, WPR of both male and female remained marginal below 3% throughout the study period, reflecting negligible dependence on agriculture in the urban economy.
In the secondary sector, the gender gap in WPR below 2% is evidence as WPR of rural males remained higher (4% to 5%) in comparison to rural females (1% to 3%) throughout the study period 2004-05 to 2023-24, though male WPR declined, but rural female WPR marginally increased over the same period. Similarly, in urban areas, males consistently dominated the secondary sector in self-employment, while urban female WPR was nearly half of male levels. The gender gap in WPR in the urban area ranged from 2 % to 4 % throughout the study period.
The tertiary sector further strengthened gender disparity in employment. In rural areas, males maintained a stable participation in the service sector around 9% to 11 % but female participation remained lagging behind at only 1% to 2 % throughout the study period. Both rural male-female WPR increased marginally from 2004-05 to 2023-24. Rural gender gaps in employment ranged from 7 % to 9% over the study period. In Urban areas, male WPR ranged from 18% to 24% while female WPR ranged marginally from 3% to 5% over the study period. Urban male WPR marginally decreased while female WPR marginally increased from 2004-05 to 2023-24. Urban gender gap in employment remained higher (16 % to 20 %) over the years.
Overall, all the trends reveal that while males have benefited from diversification into the tertiary sector, females, mainly in rural areas, remain constrained by limited access to job opportunities in the tertiary sector. The gender gap in self-employment is most pronounced in secondary and tertiary sectors in urban

areas, although a recent increase in WPR of rural females in the primary sector and urban females in the service sector indicates a gradual but uneven shift in female workforce participation as self-employed.

Figure-4: Gender Gap in Employment(WPR) in both Rural and Urban Areas in all three Sectors for Self-Employed from 2004-05 to 2023-24



Note:* P-Primary Sector, S- Secondary Sector, T- Tertiary Sector
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

Table-5: Sector-Wise Workforce Participation Rate (in %) for Regular Workers by US+SS

Rounds	2004-05	2009-10	2011-12	2017-18	2023-24
Primary Sector					
Rural Male	0.8	0.5	0.4	0.4	0.4
Rural Female	0.2	0.1	0.2	0.2	0.3
Urban Male	0.3	0.2	0.2	0.2	0.2
Urban Female	0.1	0	0.1	0	0.1
Secondary Sector					
Rural Male	2.2	2.1	2.9	3.3	4.9
Rural Female	0.4	0.3	0.4	0.3	0.6
Urban Male	11.8	11.5	12.3	12	12.3
Urban Female	1.4	1.2	1.5	1.5	2.1
Tertiary Sector					
Rural Male	5.4	5.1	5.7	7.7	8.8
Rural Female	1.4	1.4	1.7	2.2	3.3
Urban Male	21.5	22.2	22.7	23	25.7
Urban Female	7.4	6.8	7.7	9.1	12.5

Note: Sample individuals belong to 15-59 age groups.
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

Table 5 and figure 5 present sector-wise workforce participation rate (%) and gender gap in WPR for regular male-female workers across the different sectors -primary, secondary and tertiary over the different study years in both rural and urban areas. In the primary sector, rural male WPR ranged from 0.4 % to

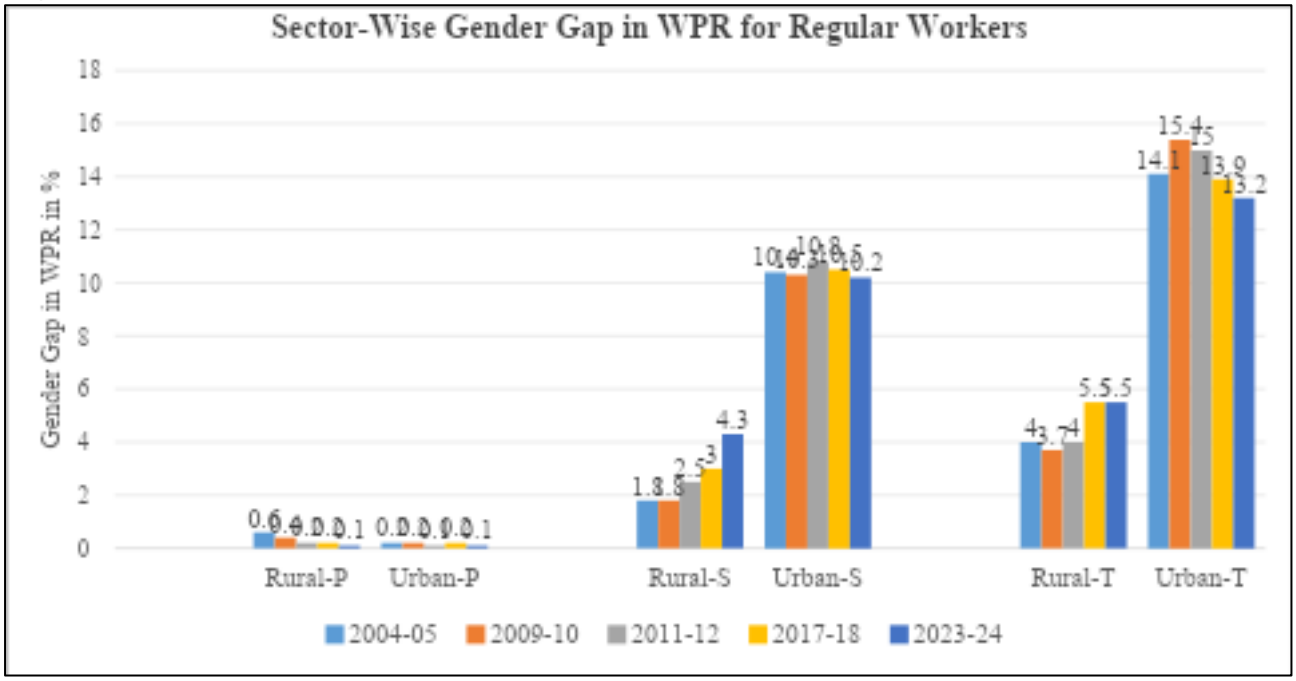
0.8% while rural female WPR remained low under 0.3% throughout the study period, which indicates a gender gap in employment. Similarly, in urban areas, female WPR was near zero or negligible and male WPR was under 0.5% over the study period. Both male and female WPR declined in both rural and urban areas, except for a marginal increase in rural females' WPR over the study period.

In the secondary sector, male WPR is higher than the female's WPR in both rural and urban areas, but mainly in urban areas. A slight increase is noticed in both male-female WPR irrespective of area from 2004-05 to 2023-24. Rural male WPR ranged from 2% to 5 % whereas females' WPR lag behind with low rates below 1% throughout the study period. The rural gender gap in employment stood at less than 5 % in the study period. In urban areas, male WPR remained under 13% and female WPR under 3 % throughout the study period, highlighting the persistence of gender disparity in WPR of more than 10% in the secondary sector.

The tertiary sector has emerged as the largest source of employment where urban male WPR increased from 21.5% to 25.7% but urban female WPR made significant gain from 7.4% to 12.5% over the years thereby reducing the gender gap in employment from 14.1% to in 2004-05 to 13.2% in 2023-24 and also indicates a growing feminization of service sector job opportunities. In rural areas, male WPR rose from 5.4% to 8.8% while female WPR increased from 1.4% to 3.3% over the years yet the gender gap in employment widened slightly from 4% in 2004-05 to 5.5 % in 2023-24.

Overall, we find that there has been a decline in primary sector regular jobs, rising industrial jobs mainly for rural males and a strong concentration of regular employment in the tertiary sector. In all three sectors, males continue to dominate females and the highest gender gap in employment is noticed in the tertiary sector in both rural and urban areas in all study years. Although the gender gap in employment is reducing in the urban service sector, rural females remain the most disadvantaged group in getting regular jobs.

Figure-5: Gender Gap in Employment(WPR) in both Rural and Urban Areas in all three Sectors for Regular Workers from 2004-05 to 2023-24



Note:* P-Primary Sector, S- Secondary Sector, T- Tertiary Sector
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

Table-6: Sector-Wise Workforce Participation Rate (in %) for Casual Workers by US+SS

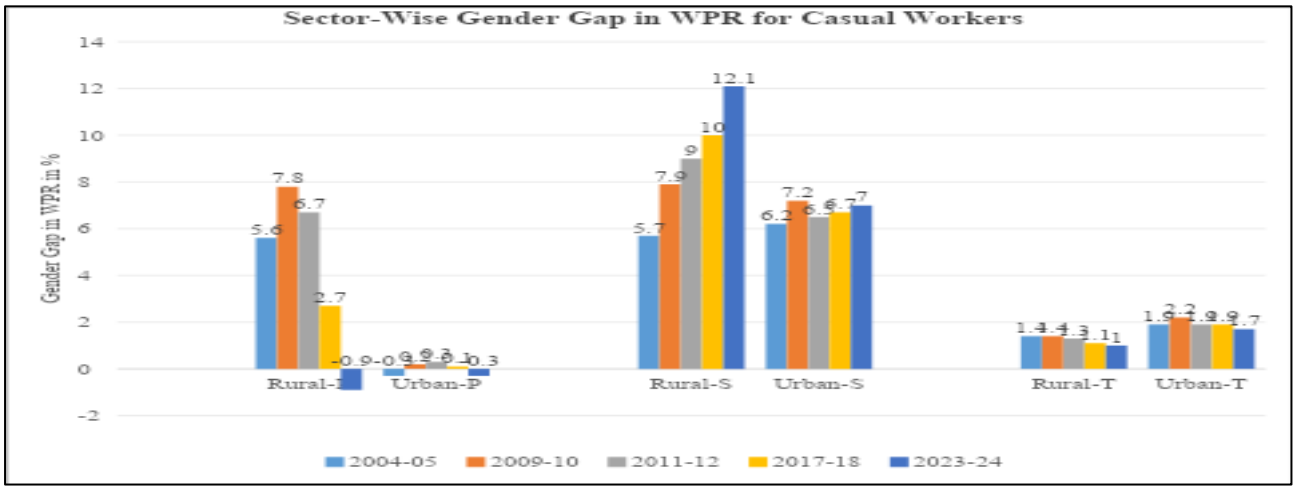
Rounds	2004-05	2009-10	2011-12	2017-18	2023-24
Primary Sector					
Rural Male	20.9	20.6	16.5	9	6.1
Rural Female	15.3	12.8	9.8	6.3	7
Urban Male	1.2	1.4	1.1	0.8	0.6
Urban Female	1.5	1.2	0.8	0.7	0.9

Secondary sector					
Rural Male	7.3	10.7	12	11.7	14.2
Rural Female	1.6	2.8	3	1.7	2.1
Urban Male	7.9	9	8	8.1	8.1
Urban Female	1.7	1.8	1.5	1.4	1.1
Tertiary Sector					
Rural Male	1.7	1.6	1.5	1.2	1.1
Rural Female	0.3	0.2	0.2	0.1	0.1
Urban Male	2.7	3.1	2.5	2.3	2
Urban Female	0.8	0.9	0.6	0.4	0.3

Note: Sample individuals belong to 15-59 age groups.
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

The sector-wise analysis of WPR of casual workers by table 6 and figure 6 reveals both structural and persistent gender disparities in employment over the period 2004-05 to 2023-24. In the primary sector, a sharp decline in WPR is noticed for both males and females, but the fall is more pronounced among rural males from 20.9% to 6.1% compared to rural females from 15.3% to 7% over the years. This narrowed the rural gender gap in employment from 5.6% in 2004-05 to -0.9% in 2023-24, largely because males exited from agricultural casual work faster than females. In urban areas, both male and female WPR remained less than 2% but male WPR was slightly higher than the female over the years; therefore, the gender gap in employment remained low but persistent.
In the secondary sector, rural male WPR increased sharply from 7.3% to 14.2% while rural female WPR increased marginally from 1.6% to 2.1% over the period 2004-05 to 2023-24. This widened the gender gap in employment significantly(12.1%) in rural areas in 2023-24. Similarly, in urban areas, male WPR increased and stood around 8% to 9% whereas female WPR fell from 1.7 % to 1.1 % over the years. The urban gender gap in employment increased from 6.2% to 7% from 2004-05 to 2023-24.
In the tertiary sector, rural female WPR remained consistently negligible, ranging from 0.1% to 0.3%, compared to rural male WPR, which ranged from 1.1 % to 1.7% over the study years. The gender gap in employment in rural areas declined and remained starkly less than 2% over the years. In the urban area, the high work participation rate of males compared to females kept the gender gap in employment at around 1 % to 2% over the study period.
Overall, we find that a structural transformation is marked by a decline in primary sector and tertiary sector casual work and a rise in secondary sector casual work mainly for rural males. Moreover, a persistent and widening gender gap in employment, mainly in non-agricultural sectors, is noticed where male dominate casual work opportunities while females remain marginalised during the study period.

Figure-6: Gender Gap in Employment(WPR) in both Rural and Urban Areas in all three Sectors for Casual Workers from 2004-05 to 2023-24



Note:*P-Primary Sector, S- Secondary Sector, T- Tertiary Sector
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

6. Section- IV

Table-7: Workforce Participation Rate (in %) by Levels of Education in Rural Area by US+SS

Levels of Education	2004-05		2009-10		2011-12		2017-18		2023-24	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Not literate	96.2	61.1	95.6	48.2	96.1	47.2	92.3	35.3	94.9	68.8
Literate upto Primary	92.1	46.3	92.9	39.8	92.4	37.6	89.7	27.3	94.6	60.9
Middle	80.6	37.3	78.6	29.5	77.3	27.7	74.8	18.6	82.5	43.9
Secondary	73.3	30.5	69.9	22.3	67.1	22.1	61.6	15.7	69.8	34.6
High Secondary	70.9	25.2	63.3	18.4	61.7	17.7	54.6	12.6	67.4	29.6
Diploma & Certificates	84.5	53.1	75.5	36.6	76.1	41.9	60.2	37.1	84.5	52.8
Graduate and above	86.1	34.5	80.6	29.9	79.4	29.9	70.5	21.1	80.8	33.2

Note: Sample individuals belong to 15-59 age groups.
(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

The analysis of male-female workforce participation by levels of education in both rural and urban areas, by tables 7& 8 and figures 7 & 8, reveals contrasting patterns in WPR and significant gender disparity in employment. In the rural area, male WPR remains consistently high across all education levels with a marginal decline, whereas female WPR remains lower than male in all education levels, but it shows some improvement in the recent year 2023-24. An increase in rural female WPR with no literacy from 2004-05 to 2023-24 indicates that economic necessity drives their entry into the workforce. At the literate level up to primary and middle level of education, male WPR stands around 90% whereas female WPR lag far behind throughout the study period, reflecting a persistent gender disparity in employment. With the secondary and higher secondary level of education, male WPR has marginally declined, and female WPR increased but remains significantly low over the study period, which indicates weak labour market absorption for moderately educated females. In contrast, the level of education, diplomas, and certificates exhibits relatively lower gender disparity in employment, with a rise in female WPR over 50% in 2023-24. It highlights the importance of skill-based education to increase female employment. With the high level of education, graduate and above, male WPR stood around 80% whereas female WPR stagnates at nearly one-third, reflecting that higher education alone does not guarantee an increase in the female workforce.

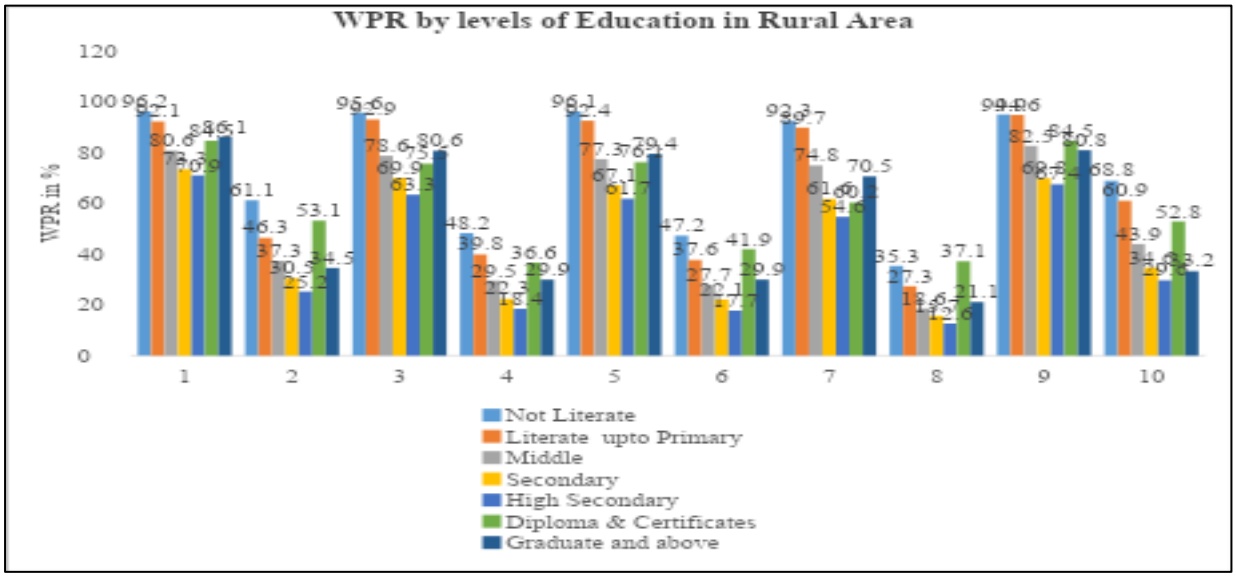
In the case of the urban area, the WPR of both males and females is lower than in the rural area, mainly for females. Male WPR remains relatively high and stable, while female WPR remained low with only marginal improvement across all education levels over the time 2004-05 to 2023-24. Urban female WPR is barely reaching 10%-20% with the secondary and higher secondary level of education, indicating structural and socio-cultural barriers. With the high level of education- graduates and above, female WPR rise marginally over the time 2004-05 to 2023-24. It reflects that higher education attainment does not necessarily increase the female workforce. In rural areas, female WPR in urban areas with diplomas and certificates show the highest and best participation. It suggests that vocational and technical education may play a more effective role in bridging the gender gap in employment than general education.

Overall, all the findings indicate that males continue to enjoy higher participation in the workforce than females, irrespective of education levels, whereas females remain disadvantaged with a gender gap in employment, which is more noticeable in urban areas. A U-shaped relationship between male WPR and

levels of education is confirmed in all study years except the recent year 2023-24, whereas this relationship does not exist for females throughout the study period.

It implies that although the level of education attained by females has improved, this development has not led to an increase in female employment opportunities. The prevalence of low-productivity agricultural jobs, the scarcity of non-farm employment opportunities, and the strong patriarchal traditions in rural areas deter even educated females from entering the workforce. In urban areas where rising education levels are not matched by enough official sector positions, educated females steer clear of low-paying or informal jobs due to higher reservation enumeration, safety concerns, and familial responsibilities. All of these structural, cultural, and labor market constraints that keep women low across educational levels hinder the creation of the U-shaped relationship between female education levels and WPR.

Figure-7: Male-Female WPR (age 15-59) and Levels of General Education in Rural Area from 2004-05 to 2023-24



(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

Table-8: Workforce Participation Rate (in %) by levels of Education in Urban Area by US+SS

Levels of education	2004-05		2009-10		2011-12		2017-18		2023-24	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Not literate	91.9	35.2	91.4	27.9	93.3	28.9	88.9	26.9	87.9	40.3
Literate upto Primary	90.8	25.8	90.3	22.9	90.9	24.9	88.1	24.8	91.7	37.5
Middle	78.1	16.6	78.2	16.3	79.3	16.7	77	14.6	81.1	25.6
Secondary	71.1	12.9	70.7	10.2	68.4	11.7	66.2	11.3	66.8	19
High Secondary	62.5	13.1	59.4	9.7	60.1	11	53.1	10.1	60.3	15.3
Diploma & Certificates	83.3	49.4	76.9	41.2	72.7	35.1	74.1	36	86.4	51
Graduate and above	84	29.6	85.5	26.8	84.8	29	79.2	28.1	84.8	34.4

Source:Note: Sample of individual belongs to 15-59 age groups.
Source: Authors' estimates based on NSSO's unit level data, various rounds.

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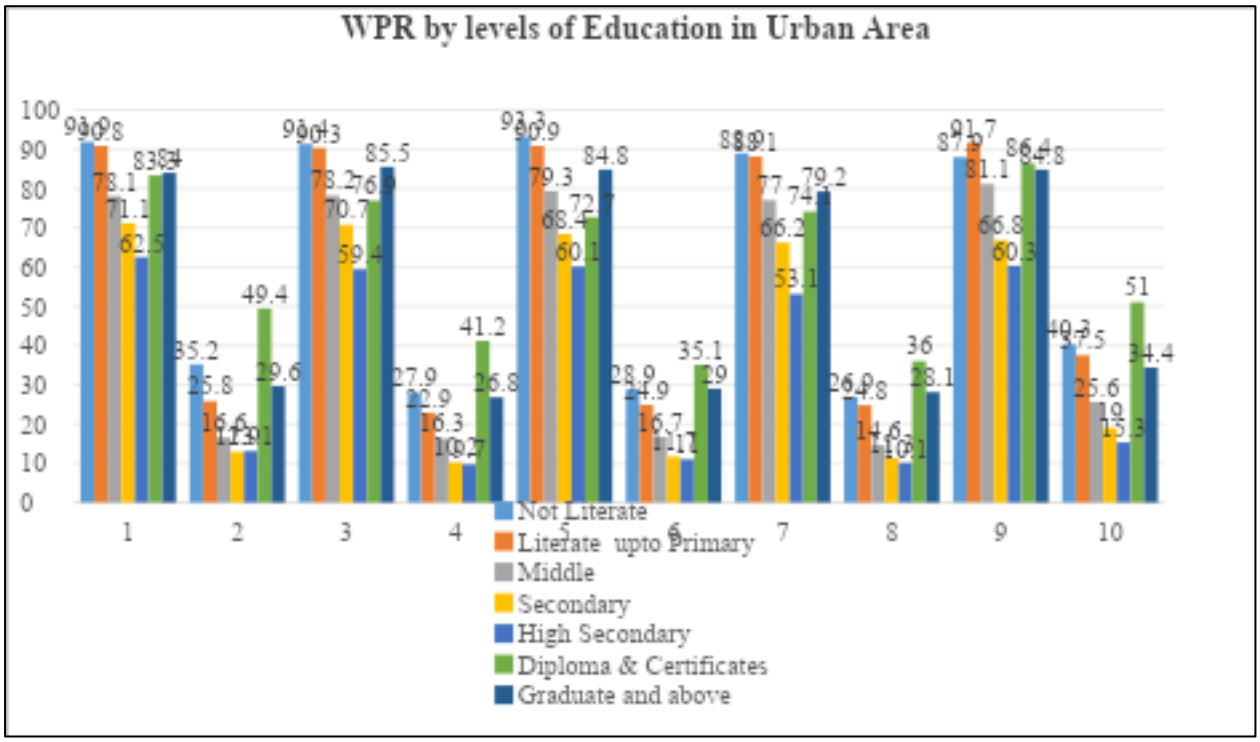
Figure-8: Male-Female WPR (age 15-59) and Levels of General Education in Urban Area from 2004-05 to 2023-24



(Source: Authors' estimates based on NSSO's unit level data, various rounds.)

7. SECTION- V CONCLUSION AND POLICY SUGGESTION:

The gender gap in WPR has recently shown an encouraging decline in rural areas, whereas it remains persistently higher in urban areas. It implies that in urban areas, where entrance obstacles are still more severe and systemic, policy measures aiming at enhancing female WPR should be more focused.

According to the results of the sectoral analysis of WPR, sector-specific initiatives are necessary to close the gender gap in employment. Women may be able to obtain better employment in the secondary sector with greater emphasis on skill development and vocational training. Similar to this, encouraging flexible work schedules, child care assistance, and a secure workplace is essential to boosting the number of women working in the urban service sector. Diversifying the job options available to women in rural areas beyond agriculture can help lower the likelihood that their participation will be motivated by distress. Overall, while some progress is visible in reducing the rural gender gap in employment, the urban gender gap in employment in secondary and tertiary sectors requires targeted multidimensional policy responses. Moreover, future research should also analyse the intersection of education, caste, religion and regional dynamics with gender labour market outcomes to make more targeted interventions. Reducing the gender gap in employment is not only vital for gender equality but also to attain an inclusive and sustainable economic growth in India.

The employment distribution by status reveals that, whereas regular jobs are dominated by urban males and females, self-employment and casual work are disproportionately prevalent in rural areas. However, rural women continue to face obstacles while trying to obtain formal employment as well as self-employment. The structural disparities in access to education, skills, and stable employment are indicated by the persistent gender disparity in regular employment, where male WPR is more than twice that of females. Rural women's primary employment, casual work, has somewhat decreased, which restricts low-paying options without guaranteeing stable employment. These trends show that although there has been some progress in closing the gender gap in employment, systemic hurdles still prevent women from obtaining secure, high-quality positions.

The main source of employment for women in rural areas is still self-employment; thus, policies should concentrate on increasing access to credit, training, and marketing linkage programs to support female entrepreneurs. To improve the consistently low WPR of women as self-employed, government and private initiatives in urban areas must support start-ups and small enterprises. Stronger policies are needed to address the gender disparity in regular employment, including skill development programs for women, incentives for businesses to hire and keep women, and rigorous enforcement of anti-discrimination and

equal pay legislation. To secure women's livelihoods, social safety programs for casual labour and rural employment initiatives like MANREGA should be reinforced. Overall, improving the status of women in all job categories requires an integrated policy that combines education, skill development, safety, and institutional support.

The gender gap in self-employment is still quite large because men predominate in the secondary and tertiary sectors, while women, who are mostly found in rural areas, are concentrated in the primary sector and have limited access to non-farm employment options. The need for strengthened policy measures that go beyond general employment promotion is highlighted by the gender imbalance in self-employment across the various sectors. Support for women's entrepreneurship in secondary and tertiary sectors, targeted credit and financial inclusion programs, and gender-responsive skill development must be the main objectives of the policies. Furthermore, enhancing the employment link between rural and urban areas, limiting market access, and providing institutional support for female cooperatives can all aid in the reduction of structural obstacles.

Furthermore, we find that regular employment in India is continuing to transfer from the primary sector to the secondary and tertiary sectors. In urban areas, men predominate in regular employment, but rural women and men are severely excluded from regular employment. However, a rising female WPR in the tertiary sector, particularly in urban areas, suggests that the workforce is becoming more gender inclusive. There has been a reallocation of workers between sectors, as seen by a structural transformation characterised by a decrease in primary sector casual work and an increase in secondary sector casual labour, primarily for rural males.

However, the low number of women in casual non-agricultural jobs is a reflection of gendered barriers to employment and long-standing labour market segmentation (Mazumdar & Neetha, 2011). Additionally, the gender gap in employment is still persistent and growing, primarily in non-agricultural sectors where men predominate in temporary labour options and women continue to be marginalised. This disparity restricts the potential advantages of structural change as well as the involvement of women in economic activities.To address the persistent gender gaps in employment, policy interventions should focus on equal wage structures and skill development. For inclusive growth and full workforce utilisation, women must be more prominent in informal employment in the secondary and tertiary sectors.

Across all educational levels, female WPR is still considerably lower than male's, with males persistent engagement in the workforce. Despite having a high level of education, females WPR is low, which is a paradox that reveals ingrained structural and cultural limitations. It draws attention to long-standing structural and cultural barriers that prevent females from entering the workforce. On the other hand, comparatively superior results from skill-based and vocational training highlight the need for policies that support female employment by expanding education and fostering an atmosphere that supports it. Furthermore, it's critical to overcome institutional and cultural barriers to guarantee that the advantages of education for females are successfully translated into inclusion in the labour market.

REFERENCES:

1. Anker, R. (1998). Gender and Jobs: Sex Segregation of Occupations in the World (Geneva, ILO).
2. Agarwal, B. (2018). Gender Equality and Food Security: Women's Empowerment as a tool against Hunger. Food and Agriculture Organization.
3. Bhaumik, S. K. (2013). "The Changing Employment Scenarios in Rural India in the Era of Economic Reforms." *The Indian Journal of Labour Economics*, 56(3).
4. Boserup, E. (1970). *Women's Role in Economic Development.* (New York, St. Martin's Press).
5. Das, M., & Desai, S. (2003). *Why Are Educated Women Less Likely to be Employed in India?: Testing Competing Hypotheses.* (Social Protection Discussion Paper No. 313). Washington, DC: World Bank.
6. Das, M. B., & Desai, S. (2020). *Why are so many Indian Women out of the Labor Force?* (World Bank Policy Research Working Paper No. 8843).
7. Dasgupta, P., & Goldar, B. (2005). Female Labour Supply in Rural India: An Econometric Analysis. Institute of Economic Growth: Delhi.
8. Desai, S., & Jain, D. (1994). "Maternal Employment and Changes in Family Dynamics: The Social Context of Women's Work in Rural South India." *Population and Development Review*, 20(1), pp. 115-136.
9. Deshpande, A. (2022). "The Missing Women in India's Employment : An Analysis of Female Labour Force Participation." *Indian Journal of Labour Economics, 65(3)*, pp. 475-492.
10. Ejaz, M. (2007). "Determinants of Female Labour Force Participation in Pakistan: An Empirical Analysis of PSLM (2004-05) Micro Data." *The Lahore Journal of Economics*, 2, pp. 204-235.
11. Esteve-Volart, B. (2004). *Gender Discrimination and Growth: Theory and Evidence from India.* (Research Paper No. DEDPS42). London School of Economics and Political Science, London.
12. Fatima, A., & Sultana, H. (2009). "Tracing Out the U-Shape Relationship between Female Labor Force Participation Rate

and Economic Development for Pakistan." *International Journal of Social Economics, 36(1-2)*, pp. 182-198.

13. Gaddis, I., & S. Klasen.(2014). "Economic Development, Structural Change, and Women's Labor Force Participation: A Reexamination of the Feminization U Hypothesis." *Journal of Population Economics*. 27(3), pp. 639—681.
14. Goldin, C. (1994). *The U-Shaped Female Labor Force Function in Economic Development and Economic History.* (Working Paper No. 4707). National Bureau of Economic Research, Cambridge.
15. Himanshu. (2011). Employment Trends in India: A Re-Examination. *Economic and Political Weekly, 46(37)*, 43-59.
16. Kabeer, N. (2012). *Women's Economic Empowerment and Inclusive Growth: Labour Markets and Enterprise Development.* (SIG Working Paper No. 1). Ottawa, IDRC and DFID.
17. Kambo, B. S., & Kaur, K. (2012). "Women Employment Scenario in India-Based on NSS Data." *Indian Labour Journal, 53(10)*, pp. 961-980.
18. Kapsos, S., Silbermann, A., & Bourmpoula, E. (2014). *Why is Female Labour Force Participation Declining So Sharply in India?* (ILO Research Paper No. 10). Geneva: ILO.
19. Kingdon, G. G. (1998). "Does the Labour Market Explain Lower Female Schooling in India?" *The Journal of Development Studies, 35(1)*, pp. 39-65.
20. Kingdon, G. G., & Unni, J. (2001). "Education and Women's Labour Market Outcomes in India." *Education Economics, 9(2)*, pp. 173-195.
21. Klasen, S., & Pieters, J. (2012). *Push or Pull? Drivers of Female Labor Force Participation during India's Economic Boom.* (IZA Discussion Paper No. 6395). Institute for Study of Labor. (IZA), Germany.
22. Klasen, S., & Pieters, J. (2015). "What Explains the Stagnation of Female Labor Force Participation in Urban India?" *The World Bank Economic Review, 29(3), pp.* 449-478.
23. Mammen, K., & Paxson, C. (2000). "Women's Work and Economic Development." *Journal of Economic Perspectives, 14(4), pp. 141-164.*
24. Mazumdar, I., & Neetha, N. (2011). "Gender Dimensions: Employment Trends in India, 1993-94 to 2009-10." *Economic and Political Weekly, 46(43)*, pp. 118-126.
25. Mehta, B. S., & Verick, S. (2021). Women and Labour Market Dynamics in India. In India Employment Report 2021. ILO & Institute for Human Development.
26. National Sample Survey Organisation (NSSO). (2006). *Employment and Unemployment Situation in India: 2004-05.* Report No. 515 (Part I & II), Round No. 61st, Ministry of Statistics and Programme Implementation, Government of India.
27. National Sample Survey Office (NSSO). (2011). *Employment and Unemployment Situation in India: 2009-10.* Report No. 537, Round No. 66th, Ministry of Statistics and Programme Implementation, Government of India.
28. National Sample Survey Organisation (NSSO). (2014). *Employment and Unemployment Situation in India: 2011-12.* Report No. 554, Round No. 68th, Ministry of Statistics and Programme Implementation, Government of India.
29. National Sample Statistical Office. (2019). *Periodic Labour Force Survey: 2017-18.* Annual Report, Ministry of Statistical & Programme Implementation, Government of India.
30. National Sample Statistical Office. (2024). *Periodic Labour Force Survey: 2023-24.* Annual Report, Ministry of Statistical & Programme Implementation, Government of India.
31. Olsen, W. K., & Mehta, S. (2006). The Right to Work and Differentiation in Indian Employment. (Conference Paper). The Indian Society for Labour Economics, Delhi.
32. Pampel, F. C., & Tanaka, K. (1986). "Economic Development and Female Labour Force Participation: Reconsideration." *Social Forces*, 64(3), pp. 599–619.
33. Psacharopoulos, G., & Tzannatos, Z. (1989). "Female Labour Force Participation: An International Perspective." *World Bank Research Observer*, 4(2), pp. 187–201.
34. Papola, T. S. (2012). *Employment Growth in the Post-Reform Period.* (ISID Working Paper No. 2012/07).
35. Papola, T. S. (2012). Structural Changes in the Indian Economy: Emerging Patterns and Implications. Institute for Studies in Industrial Development (ISID).
36. Rustagi, P. (2010). "Continuing Gender Stereotypes or Signs of Change: Occupational Pattern of Women Workers." *Indian Journal of Labour Economics*, 53(3), pp. 481-500.
37. Rustagi, P. (2010). *Employment Trends for Women in India.* (ILO Asia-Pacific Working Paper Series). Sub-Regional Office for South Asia, New Delhi.
38. Schultz, T. P. (1990). "Women's Changing Participation in the Labour Force: A World Perspective." *Economic Development and Cultural Change*, 38(3), pp. 457–488.
39. Sharma, A., & Saha, S. (2015). "Female Employment Trends in India: A Disaggregated Analysis." *The NEHU Journal, 13(2)*, pp. 17-30.
40. Srivastava, N., & Srivastava, R. (2010). "Women, Work and Employment Outcomes in Rural India." *Economic and Political Weekly, 45(28)*, pp. 49-63.
41. Swaminathan, M., & Majumdar, S. (2006). "Workers in Urban India: Changes in Gender Segregation of Occupations 1983-2000." *The Indian Journal of Labour Economics*, 42(2), pp. 273-292.
42. Tansel, A. (2001). Economic Development and Female Labor Force Participation in Turkey: Time Series Evidence & Cross-Province Estimates. ERF.