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Exploring the Gender Pay Gap: A Systematic Review of Causes and Magnitudes

Gopal Kumar Sarma
Assistant Professor in Economics
B.B.K. College, Nagaon, Barpeta, Assam

Abstract:
This study examines the persistent global gender pay gap, its causes, and magnitudes through a comprehensive literature review. Despite progress in gender equality, women worldwide still earn significantly less than men. The research explores various factors contributing to this disparity, including gender-specific influences, wage structures, educational differences, occupational segregation, the motherhood penalty, and discrimination. The study analyzes labor force participation rates, time allocation in paid and unpaid work, and gender pay gap statistics across different income levels and countries. It highlights the complex interplay of societal, economic, and institutional factors perpetuating the pay gap. The review emphasizes the need for targeted policy interventions and region-specific research to address this critical issue effectively. Understanding these multifaceted dynamics is crucial for developing comprehensive strategies to close the gender pay gap and promote equal opportunities in the global workforce.

Keywords: Gender pay gap, Occupational segregation, Motherhood penalty, Labor market discrimination, Wage structure

1. Introduction

The Global Gender Gap Report 2021 indicates that the global average progress toward gender equality stands at 68%, reflecting a decline of 0.6 percentage points from 2020. This regression is primarily attributed to the deteriorating performance of several major economies (WEF, 2021). At the current trajectory, closing the global gender gap is estimated to require 135.6 years. The World Economic Forum (WEF) annually releases the Global Gender Gap Index, which evaluates disparities between men and women across four key domains: Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment (WEF, 2021). Among these, economic participation and opportunities are particularly critical. This study specifically examines one of its most persistent challenges: the gender pay gap. This study aims to assess the extent of the pay gap and explore its underlying causes through a comprehensive review of the existing literature. Gender equality and women's economic empowerment are crucial for achieving inclusive development and sustaining economic growth. As emphasized by the World Bank (2011), no nation can fully realize its developmental potential when half its population is confined to unpaid, underpaid, or less productive roles. Recognizing its importance, gender equality has become a central focus of global development policies. The Sustainable Development Goals (SDGs) place gender equality at their core. Goal 5 specifically aims to achieve gender equality and empower all women and girls, while Target 8.5 advocates for "equal pay for work of equal value." However, despite these commitments, women globally still earn, on average, only 77 percent of what men earn, highlighting a persistent gender pay gap that necessitates urgent policy intervention (ILO, 2016). Research on the gender pay gap has expanded over the years and continues

to gain momentum. The term generally refers to the difference in median earnings between men and women and is often represented as either an earnings ratio or percentage difference. For example, in 2017, women working full-time year-round in the United States had a median annual income of $41,977, compared to $52,146 for men (Fontenot et al., 2018). Although the concept appears straightforward, measuring the pay gap is often contentious because of variations in data sources and estimation methods. Indeed, estimates for the same country and time period can differ significantly depending on whether and how controls are applied for factors such as occupation, education, and experience (ILO 2018). Economists focusing on gender have consistently emphasized the importance of addressing wage disparities, as wages are a crucial determinant of individuals' economic well-being. Wages not only influence decisions to join the labor force but also impact broader life choices, such as marriage, fertility, and intra-household dynamics. Moreover, income levels are closely tied to bargaining power and status within families, making the gender pay gap a vital indicator of broader socioeconomic inequality.

2. The extent of Gender Pay Gap

To analyze the extent of the gender pay gap, it is important to examine the labor force participation rate and use time spent in paid and unpaid work by sex. According to data from the OECD online database, Table 1 reveals that the average overall labor force participation rate among OECD countries is 74 percent. Notably, the participation rate for men is significantly higher at 79.7 percent compared to 68.4 percent for women. India's labor force participation rate is markedly below the OECD average, primarily because of lower female participation.

Table 1: Labour force participation rate (2020)
(Age group 15-64)

Country	Total	Men	Women
Iceland	83.5	86.1	80.7
Mexico	62.3	79.3	46.7
Netherlands	83.4	86.9	79.8
New Zealand	80.6	85.2	76.1
Norway	78.2	80.4	75.8
Poland	71	78.3	63.6
Sweden	82.5	84.6	80.3
Switzerland	84.1	88.1	80
United Kingdom	78.8	82.7	75
United States	73	78.3	67.8
OECD - Average	74	79.7	68.4

Non-OECD countries			
Brazil	66.8	77.1	56.9
India	53.8	79.5	28
Russia	74.3	79.5	69.5
South Africa	54.6	60.6	48.6

Source: OECD Statistics Online

Table 2 shows the time allocated to paid and unpaid work by both sexes. It is apparent from the table that women, on average, dedicate approximately 6 percent more time to both paid and unpaid work than men, as indicated by the OECD's average. This disparity is even more pronounced in lower middle-income countries such as India, where women spend approximately 21 percent more time than their male counterparts. Women are more engaged in unpaid work than paid work. The OECD average in Table 2 demonstrates that women are involved in unpaid work nearly twice as much as men, while their participation in paid work is only 61 percent compared to men.

Table-2: Time spent in paid and unpaid work by sex (2021)
(Age group 15-64)

Country	**Time Spent in Minutes**					
	Unpaid		**Paid**		**Total**	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
United Kingdom	140.1	248.6	308.6	216.2	448.7	464.8
United States	165.8	271.3	331.7	247.0	497.6	518.3
OECD - Average	136.5	263.4	317.8	217.7	454.3	481.1
China (People's Republic of)	91.0	234.0	390.0	291.0	481.0	525.0
India	51.8	351.9	390.6	184.7	442.3	536.6
South Africa	102.9	249.6	294.2	195.0	397.1	444.6

Source: OECD Online Database

These statistics are particularly concerning for lower-income nations such as India, where women engage in unpaid labor at a rate 6.7 times higher than men, while their participation in paid employment is approximately half. This underscores a global trend in which women are generally more involved in unpaid than paid work. In this context, it is essential to evaluate the extent of the gender pay gap, for which the International Labour Organisation (ILO) databases and reports are utilized. Given that the methodology for estimating the gender pay gap varies across countries, the ILO calculates it using both the mean and median values. Table 3 clearly demonstrates that the global median gender pay gap exceeds the mean gender pay gap. Both estimates indicate that men earn more than women do. The gender pay gap is most pronounced in low-income countries in terms of monthly income.

Table-3: Mean and median gender pay gap using hourly and monthly earnings
(in percent)

Category of countries by income type	Gender pay gap using hourly wages		Gender pay gap using monthly earnings	
	Mean	**Median**	**Mean**	**Median**
High income	16.2	15.7	25.6	24.9
Upper-middle income	15.1	17.3	19.2	20.2
Lower-middle income	16.1	14.8	15.8	22.3
Low income	14.6	22.7	28.2	31.7
World	**15.6**	**16.6**	**20.5**	**21.8**

Source: ILO, 2018

The mean gender pay gap is 28.2 percent, in contrast to the median gender pay gap of 31.7 percent. Data indicate that the mean gender pay gap is also significant in high-income countries, at 25.6 percent. Considering both estimation methodologies, the overall data reflect that men earn more than their female counterparts.

3. Factors causing gender pay gap

The gender pay gap remains a significant issue, necessitating the development of effective policy measures to address it. Addressing this problem not only supports economic security and opportunities but also contributes to narrowing the global gender gap in the labor market. Existing literature highlights various causes of the gender pay gap, with the following being particularly noteworthy:

3.1 Gender-specific factors: Economists have historically attempted to understand the gender pay gap through two primary frameworks: the human capital explanation and models of labor market discrimination. These frameworks focus on gender-specific factors, emphasizing that differences in qualifications or treatment based on gender are key contributors to the pay gap (Blau and Kahn, 1999). The human capital explanation, introduced by scholars such as Mincer and Polachek (1974), attributes gender disparities in economic outcomes to productivity differences arising from the traditional division of labor within families. This perspective suggests that women, anticipating shorter and more interrupted careers due to family responsibilities, may be less inclined to invest in formal education and on-the-job training, resulting in lower earnings than men. The human capital model provides a coherent rationale for gender differences in labor market outcomes based on the conventional family division of the labor. Models of statistical discrimination, later developed by researchers such as Aigner and Cain (1977) and Lundberg and Startz (1983), were designed to explain the persistence of discrimination despite competitive labor market conditions. These models operate in a context of uncertainty and imperfect information, focusing on differences between groups in expected productivity or the reliability of productivity prediction. Bergmann's (1974) overcrowding model examines the link between occupational segregation and discriminatory wage gaps. This model posits that excluding women from "male" jobs results in an oversupply of labor in "female" occupations, thereby lowering wages for equally productive workers. Another factor to consider is the challenge posed by feedback effects when empirically decomposing the gender pay gap. The traditional division of labor in the family affects women's market outcomes by influencing their

acquisition of human capital and justifying employer discrimination. Conversely, discrimination can reinforce the traditional division of labor by reducing market rewards for women's human capital investments and labor force participation. Small initial discriminatory wage differences may grow into substantial gaps as men and women make decisions about human capital investment and time allocation based on these differences (Blau & Kahn, 1999).

Goldin and Rouse (1997) investigated the impact of "blind" auditions on the representation of women in symphony orchestras. Their analysis of data from actual auditions revealed that the use of a screen significantly increased the likelihood of women advancing beyond the initial rounds and enhanced the probability of a female contestant succeeding in the final round.

3.2 Role of wage structure: Regarding the wage structure, the human capital model posits that men and women typically possess different levels of labor market qualifications and are often employed in distinct occupations and industries. Discrimination models further suggest that women may be restricted to different sectors of the labor market. This implies that the returns on skills and premiums for employment in certain sectors could substantially influence the gender pay gap. Similarly, labor market discrimination or actual deficiencies in unmeasured female skills might lead employers to perceive women as possessing both lower measured and unmeasured skills. Consequently, the greater the rewards for unmeasured skills, the larger the gender gap is likely to be, even after accounting for the measured characteristics. The concept of a "high" or "low" return is inherently relative. Therefore, the wage structure framework necessitates a reference point and is particularly valuable for analyzing changes in gender differentials over time. The wage structure is influenced by various factors, such as the relative supply of labor with different skill levels, technological advancements, demand composition, and wage-setting institutions (Gottschalk and Joyce, 1995). Additionally, institutional factors, including declining union density and the decreasing real value of the minimum wage, appear to have contributed to rising inequality (Freeman, 1993; Card, 1996).

3.3 Gender pay gap in higher education: In the context of the gender pay gap in higher education, Bertrand et al. (2010) examined gender differences in the career trajectories of MBA graduates from a prestigious US business school. Initially, following the completion of their MBAs, male and female graduates from this elite program exhibited nearly identical labor income and weekly working hours. However, the gender gap in annual earnings widened significantly as their careers progressed, reaching an approximately 60-log-point difference 10–16 years after MBA completion. The researchers identified three immediate factors contributing to the substantial and increasing gender gap in earnings: a slight advantage for males in pre-MBA training, coupled with an increase in labor market returns to such training with post-MBA experience; gender-based differences in career interruptions, combined with significant earnings losses associated with any break in career continuity; and a growing disparity in weekly working hours between genders as the years since MBA completion progressed. Changes in labor market activity around the time of the first birth played a crucial role in driving these differential shifts by gender.

3.4 Occupational segregation: Direct discrimination and bias against women in the workplace significantly contribute to the gender pay gap. Annually, the EEOC receives numerous complaints regarding pay discrimination based on sex, race, and other factors, with many cases resolved in favor of the complainant (U.S. Equal Employment Opportunity Commission (2018). Owing to ongoing sex discrimination, women are less likely than men to attain top-paying leadership and executive roles. In 2015, women occupied only 26 percent of executive positions in the private sector, with women of color being particularly underrepresented in these roles (AAUW, 2016). Other studies have similarly highlighted the role of gender discrimination in the pay gap, even when controlling for various factors. For example, research on medical professionals revealed a 6 percent unexplained pay gap between comparable male and female researchers, while a recent study of the American workforce identified an 8 percent unexplained gap (Jagsi et

al., 2012; Blau & Kahn, 2017). Women from diverse racial and ethnic backgrounds experience discrimination differently, but biases related to race and gender, and their intersection, significantly contribute to the overall pay gap. From early education, gendered expectations about what boys and girls are "good" at or should focus on are prevalent in society. These expectations, along with societal pressures to conform to gender role stereotypes, continue to influence choices regarding classes, extracurricular activities, college majors, and career paths. Consequently, women and men often end up in different occupational fields. Women are overrepresented in education, office and administrative support, and healthcare roles, while men dominate construction, maintenance and repair, and production and transportation jobs (U.S. Bureau of Labour Statistics, 2018). Occupational segregation is a major factor contributing to the pay gap. Although a pay gap exists in nearly every occupational field, jobs traditionally associated with men tend to offer higher pay than those dominated by women, even when requiring similar skills (Hegewisch and Hartmann, 2014). This segregation is perpetuated by "steering," where women are directed into lower-paying jobs based on perceptions of "women's work." Consequently, pay disparities arise as women are funneled into lower-paying roles, or their opportunities for promotions or transfers to higher-paying positions are limited.

3.5 The motherhood penalty: Parenthood leads to different professional outcomes for women and men, with full-time working mothers earning only 71 percent of what their male counterparts earn (National Women's Law Center, 2018). Mothers are more likely than fathers to take career breaks or reduce their working hours, negatively impacting their earnings (Bertrand et al., 2010). Many employers and industries still favor traditional continuous work hours over flexible schedules, disadvantaging women with children (Goldin, 2014).

Working mothers often face a "motherhood penalty" that extends beyond the time they spend away from their professional duties. Empirical research indicates that employers are less inclined to hire mothers than women without children, and when mothers do receive employment offers, these offers frequently come with lower salaries than those extended to other women (Correll & Benard, 2007; Kricheli-Katz, 2012).

3.6 Direct gender and race discrimination and bias: Direct discrimination and bias against women in the workplace, including gender and racial discrimination, exacerbate the wage gap. The U.S. The Equal Employment Opportunity Commission (EEOC) receives thousands of complaints annually concerning sex, race, and other forms of pay discrimination, with many cases being resolved in favor of the complainant (U.S. Equal Employment Opportunity Commission, 2018). Due to persistent sex discrimination, women are less likely than men to secure top-paying leadership and executive roles. In 2015, women held only 26 percent of executive positions in the private sector, with women of color being particularly underrepresented in these roles (AAUW, 2016). Other studies have corroborated these findings regarding gender discrimination and the wage gap, even when controlling for certain variables. For instance, a study of medical researchers identified an unexplained 6 percent wage gap between comparable men and women, and a recent analysis of the American workforce as a whole found an unexplained 8 percent gap (Jagsi et al., 2012; Blau & Kahn, 2017). Women from diverse racial and ethnic backgrounds experience discrimination differently, but biases related to race, gender, and their intersection significantly contribute to the overall wage gap.

3.7 Gender pay gap in the Indian urban market: Ara (2021) examined the gender wage disparity in the Indian urban labor market and discovered that women's work is undervalued even in regular salaried positions, with female workers earning significantly less than their male counterparts across nearly all sectors and occupational subcategories, despite accounting for differences in experience, education, geographical location, and other individual characteristics. When analyzing the gender pay gap, it was found that approximately two-thirds of the gap is attributable to pure labor market discrimination, while only one-third is due to differences in endowments.

4. Conclusion

Globally, women earn merely 77 cents for every dollar earned by men, leading to persistent income inequality throughout their lifetimes and increasing the likelihood of poverty upon retirement. This concerning trend highlights a significant gender pay gap, which, if current progress continues, may not achieve parity until 2069 at the current rate. Consequently, the disparity in pay between the sexes remains a critical global issue. This review explores the various factors contributing to the gender pay gap. Key elements include gender-specific influences, wage structures, educational disparities, occupational segregation, motherhood penalty, and instances of discrimination based on gender and race. Understanding the intricate interplay of these factors is essential for developing a comprehensive policy framework to mitigate the gender pay gap. While this study provides a broad overview, it underscores the necessity for more region-specific research. Tailoring interventions to the distinct contexts and challenges of different regions is crucial for formulating effective strategies to close the gender pay gap worldwide. A detailed understanding of the complex nature of this issue will enable policymakers to implement targeted actions that address the underlying causes and promote equal opportunities in the workforce for women.

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