

## **Antecedents of the Gender Wage Gap in Selected G20 Economies**

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### **ABSTRACT**

*Gender wage gaps have increased exponentially over the last few decades. This has serious consequences for high wealth inequality. While governments and firms are designing policies to reduce the gender wage gaps, few of the reasons are structural in nature. This paper analyzes the factors affecting gender wage gap in selected G20 economies, combining both developed and emerging economies. The results show that while richer economies exhibit higher gender wage gaps, larger proportion of women in the workforce, and the increasing share of women completing tertiary education are factors that significantly reduce the gender wage gaps across economies.*

### **1. INTRODUCTION**

While it is often assumed that the gender wage gap would be higher in developing nations than developed nations, on the contrary, the gender wage gap is astonishingly high with 31.2% and as low as 1.9% in Colombia. (OECD, 2022). Gender wage gap as defined by the OECD is the difference between the median full-time earnings of men and women, relative to median full-time earnings of men.

There is widespread evidence of a gender wage gap across both developing and developed economies. This is due to a differential treatment between men and women by their employers. This discrimination is due to both a conscious and unconscious bias in hiring and pay decisions by employers. According to the Census bureau, for annual pay of full-time workers, women are paid 80 cents for every dollar earned by men when in fact, both women and men are at a similar education level. One major factor that causes the gender wage gap is the unequal participation of both genders into the labor force. For instance, the gender gap in labor force participation is also caused due to women dropping out of the labor force during childbirth. This gap is termed the “motherhood penalty”, where after giving birth, women’s pay lags behind similarly experienced men and women without children.

This large gender pay gap along with discrimination in the workplace inhibits women from joining the workforce. Equality in terms of gender wage gap can incentivize women to join the workplace. In the state of Minnesota in the United States, 57% Black women are the primary breadwinners since the gender pay gap among the Blacks is only 4%, when in fact only 30% of White women are the primary breadwinners as the gender pay gap among the White population is 22%. (Gender Policy Report, 2021) Therefore, this provides evidence to the fact that narrowing the gender wage gap can increase female labor market participation.

In this paper we seek to answer 2 important research questions. First, we examine the trend for gender wage gaps across the sample economies over the last 6 years. Second, we study the possible factors that affect the gender wage gap. We use secondary data to answer our research questions. Our data sources include ILOSTAT, World Bank and OECD. We focus on selected few economies that comprise both developed and developing economies. The sample of our study consists of large economies that have a significant share of global economic growth.

The main result of our paper indicates that richer economies exhibit higher gender wage gaps. However, higher the proportion of women in the workforce, and larger the proportion of women that completed tertiary education lower the gender wage gaps in the economy. Our main contribution is that we extend the research on gender wage gaps by studying this phenomenon for G20 economies using a combination of both developed and developing economies. Furthermore, we also investigate the factors that lead to the increase and decline of gender wage gaps.

## **2. LITERATURE REVIEW**

The paper written by Hass (2007) examines the relationship between gender wage gap and degree of economic development of a country as measured through secondary data. They conclude that- As economic development increases, the size of the gender wage gap also increases but at high levels of per capita income, the difference in pay decreases. Decrease in gender wage inequality is not expected to be seen till countries reach development levels close to 0.80 on the Human Development Index. Also, gap between men and women in adult literacy was positively related to gender wage gap.

The paper written by Oostendorp (2009) suggests reasons why globalization would have a narrowing or increasing effect on the gender wage gap through secondary data. They conclude that occupational gender wage gap appears to decrease with an increase in economic development. They say that this gender wage gap is clearly noticeable in richer countries due to reduction in discrimination and increase in demand for labor participation. Further, there is no

clear effect in poor nations due to less availability of data.

The paper written by Drolet (2011) examines factors that contributed to narrowing the gender wage gap through secondary data. They conclude that the changing composition of the labor force and changes in how the labor market compensates workers plays a role in narrowing the gender wage gap. Similar characteristics between men and women now entering the wage market plays a positive impact. Also, as young cohorts replace older cohorts, the gender wage gap declines. Decrease in gender wage gap is related to the fact that men and women's wages did not diverge to the same extent as they did in the past.

The paper written by Blau and Kahn (2016) provides new empirical evidence on the extent of the trends in OECD countries gender wage gap through secondary PSID Micro Data. They conclude that improvements over 1980 -2010 in women's education, experience and occupational representation helped reduce gender wage gap, but this taken together had a nominal impact.

The paper written by Cardoso et. al. (2016) studies what hides behind the gender wage gap by executing a number of wage decomposition exercises through secondary data. They conclude that fall in the gender wage gap is due to the result of compositional change.

The paper written by Kunze (2017) reviews economic literature on gender pay gap with emphasis on developed nations through secondary da. They conclude that there exist significant gender wage gaps at all wage levels with an approximate high of 80 - 90% of wage difference and the reasons for this high is difference in education levels, training and motherhood penalty. Education and training have most positive impact on both genders across all wage quantities while number of children has negative impact on low wage quantiles in female earnings, but has had a positive impact on high wage quantiles for both men and women earnings.

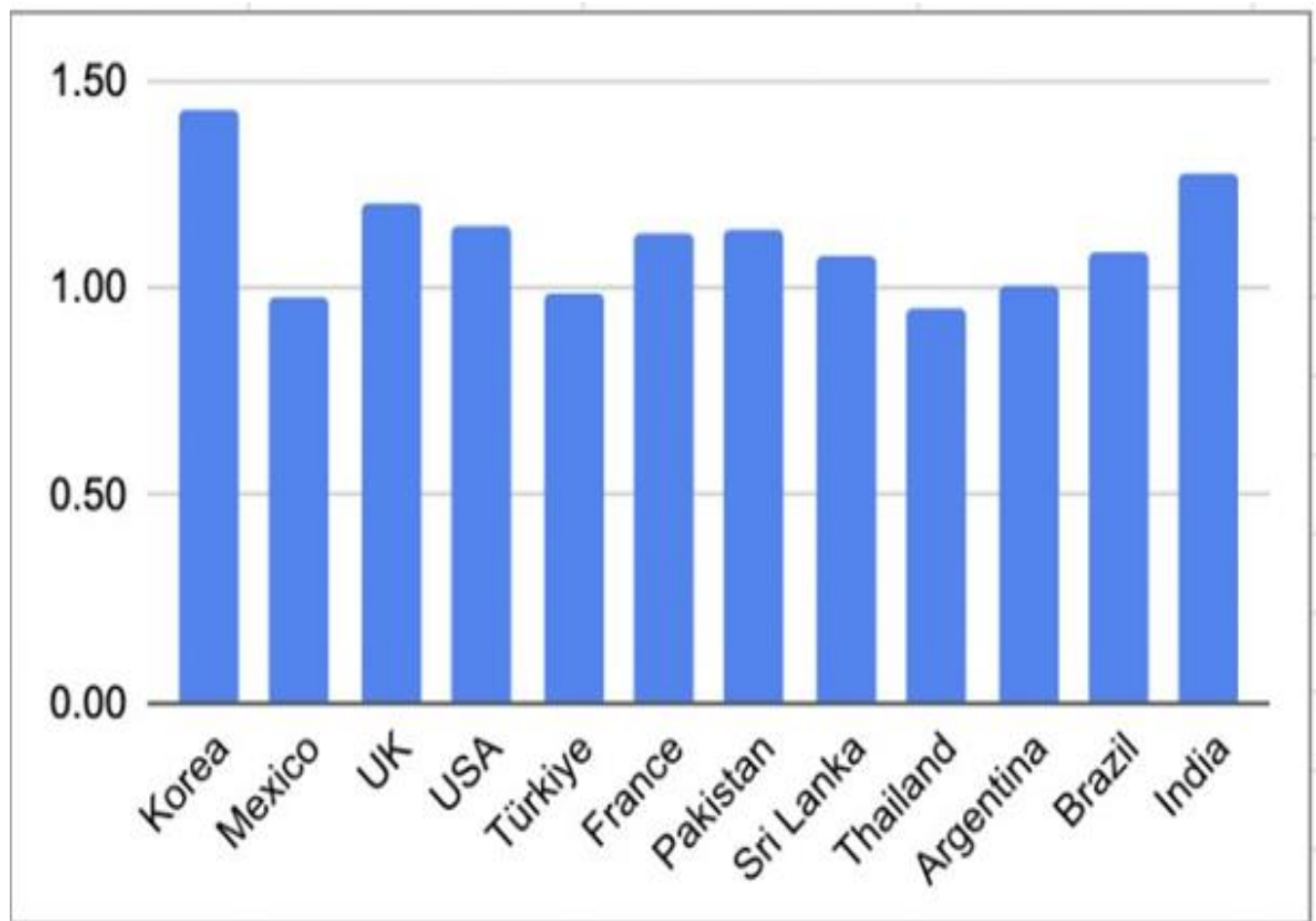
The paper written by Gedik and Gunel (2021) aims to analyze effects of factors playing an important role in women's impoverishment on wage inequality analyzed over a sample of few selected OECD nations from 1996 to 2016 through secondary data. They conclude that increase in participation of women in the labor force decreases the gender wage gap. Furthermore, education increase does not guarantee a decrease in wage gap for primary level, but it does for the secondary level. Also, increase in life expectancy of women decreases gender wage gap and more labor force participation by women in industrial sector than agricultural sector helps decrease gender pay gap.

### **3. DESCRIPTIVE STATISTICS**

The dependent variable in our study is the gender wage gap ratio which is a ratio of male wages to female wages for across all countries in our sample over the years 2018-2023. Data is obtained

from ILO Stats and the World Bank Database. The countries in our sample include India, Brazil, Thailand, Turkey, Mexico, France, Korea, United States and United Kingdom. The choice of these countries is based on the G20 economies, which is a mix of both developed and developing economies. The gender gap ratio can take a value greater than 1 or less than 1. If the value is greater than 1 it implies that the male wages is higher than female wages, while if the ratio is less than 1 it implies female wages is greater than the male wage. A value closer to 1 implies gender parity in wages.

**FIGURE 1 - Gender gap ratio across sample nations from 2018-2023**



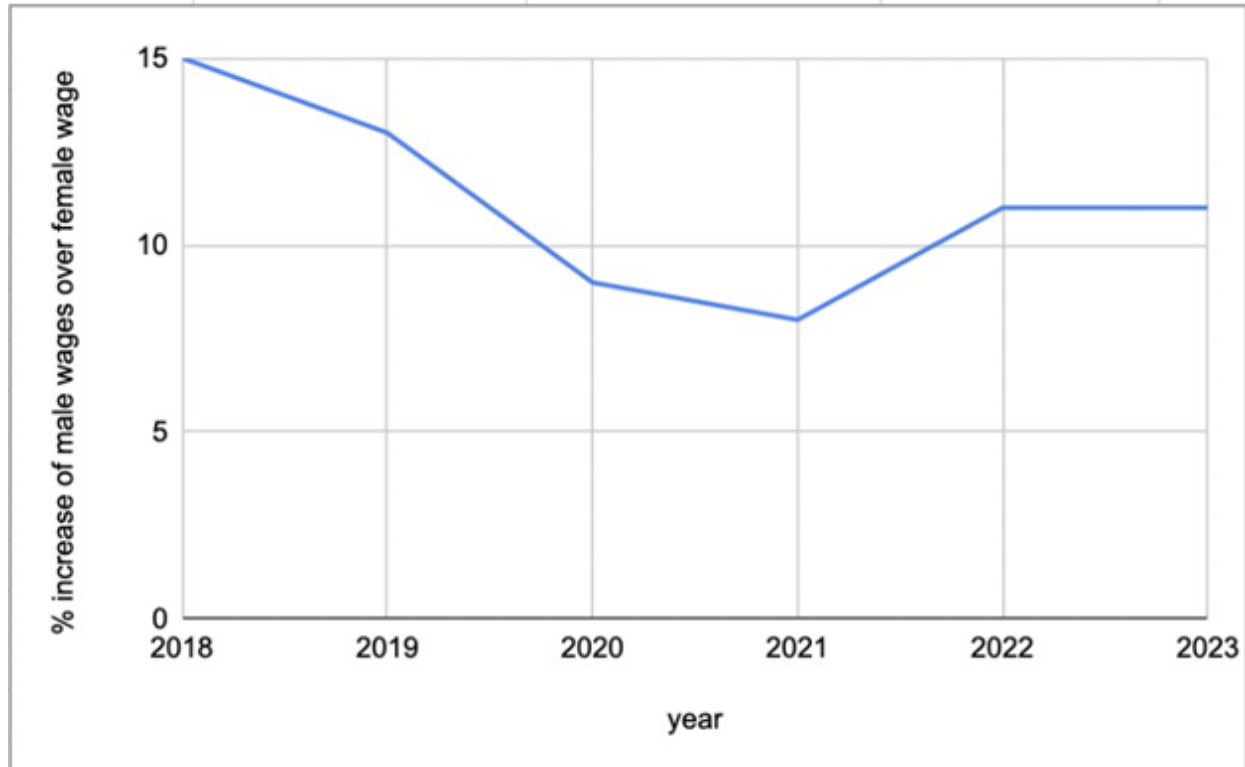
From Figure 1 we see that among the developed economies Mexico and Türkiye and among developing nations Thailand and Argentina have attained gender parity with respect to wages. In our sample Korea exhibits the largest gender pay gap among developed nations while India exhibits the highest among developing nations.

**TABLE 1: Descriptive Statistics of the key variables in the study**

VARIABLE	UNIT	MEAN	STANDARD DEVIATION	MINIMUM	MAXIMUM
Gender Wage Gap	Ratio	1.11	0.14	0.91	1.46
GDP Per Capita	Value	18528.39	18618.33	1612.8	62789
Unemployment	%	6.25	3.59	0.7	13.7
Working age population	%	50.76	8.06	37	72
Inflation Rate	%	7.09	11.63	-0.8	72.3
Proportion of Women in top managerial Positions	%	28.27	10.21	6.3	43.2
Share of females completing tertiary education	%	64.78	32.13	7.7	135

*Source: Author's compilation from ILO Stats*

From Table 1, we see that the average gender wage gap ratio across all nations in our sample is 1.11, which is close to gender pay parity with a low standard deviation of 0.144. The highest standard deviation exists for the variable of gross domestic product per capita of 18618.33 where the values range from a low of 1612.8 to a high of 62789. This indicates a mix of developing and developed nations in our sample. Average unemployment rate for the sample set is 6.253% and the values of the unemployment rate range from 0.7 to 13.7 percent. Average working age population is 50.763 percent, and the working age population ranges from minimum of 37 to maximum of 72 percent. Average inflation rate is 7.094 percent and it ranges from -0.8 to 72.3. Average proportion of women in top managerial positions is 28.27% and the value ranges from 6.3 to 43.2. Mean share of women completing tertiary education is 64.78% and it ranges from 7.7 to 135.

**FIGURE 2 - Year Wise trend of gender wage gap across selected sample nations**

Source: Author's computation from ILO Data

Figure 2 represents the overall gender wage gap for all countries in our sample from 2018 to 2023. In this figure, the gender wage gap is defined as a percentage increase in male wages as a proportion to female wages. It is seen that in 2018 men earned 15% more than women. This gap slightly decreased over the next few years to 8% in 2021 and again began increasing over the next few years. One possible reason for the decline in the gender wage gap could be due to the global health crisis (COVID -19) in 2020-21 which resulted in massive job losses thereby narrowing the gender wage gap.

#### 4. RESULTS AND ANALYSIS

The main dependent variable in this study is the gender wage gap which is defined as the ratio of male wages to female wage. The explanatory variables in this study are GDP per capita, Unemployment Rate, working age population, Inflation Rate, Proportion of women in top managerial positions and the share of women having completed tertiary education. The main objective of this study is to examine the determinants of gender wage gap across the major economies. We run a panel data regression with the countries as cross section variable and years

as time variable. Accordingly, we have a total of 49 observations consisting of 11 countries over 6 years. Due to certain missing data, we have an unbalanced panel. We estimate the model using a random effects panel data estimation.

**TABLE 2: REGRESSION ANALYSIS**

Variable	Coefficient Value
Constant	2.20**
GDP per capita	0.00**
Unemployment Rate	0.014**
Inflation Rate	0.00
Share of females completing tertiary education	-0.012**
Proportion of women in top managerial positions	-0.01**
Working age population	-0.014**

The results from our study indicate that GDP per capita, and unemployment rates positively affect the gender wage gap. Share of females completing tertiary education, proportion of women in top managerial positions and working age population negatively affect gender wage gap. Inflation rate is not significant in explaining gender wage gap. This implies that as countries get richer the inequality in wages among men and women increase. The share of females completing tertiary education, proportion of women in top managerial positions and working age population are negatively associated with gender wage gap. This implies that as women get more educated and reach higher levels of managerial positions there is a reduction in inequality in wages between men and women. Lastly, as the working age population increases the labor market becomes more competitive, and hence the gap between men and women wages declines.

**CONCLUSION**

The main objective of the study was to examine the trend for gender wage gaps across the sample economies over the last 6 years and study the possible factors that affect the gender wage gap. We studied the phenomena of gender wage gap using secondary data from ILOSTAT, OECD and World Bank databases. Our sample consisted of 11 countries: Republic of Korea,

Mexico, United Kingdom, United States, Türkiye, France, Pakistan, Sri Lanka, Thailand, Brazil and India over 6 years from 2018 to 2023. We employed a panel data regression technique to examine the relationship between the turn in independent and dependent variables. The main results suggest that while GDP per capita positively affects gender wage gap, an increase in working age population, proportion of women in top managerial positions and share of females completing tertiary education help reduce gender wage gap.

Given the high wealth inequality in the society (Jones, 2015), the results from this study provide important policy lessons. There should be greater inclusivity in the workforce by increasing participation of women across all levels of hierarchy. Furthermore, there should be greater emphasis on improving the levels of education among women so as to enable them to participate in the labor market. Lastly there should be government regulation to limit the wage inequality in the economy. Recent evidences where the Indian economy has passed a mandate of having female representation in boards are a welcome change.

One of the main limitations of our study is the limited sample size due to lack of availability of frequent data. However further research on this topic can be strengthened by analyzing this phenomenon over a larger sample size, which includes more countries and longer periods of time.

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