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**IMPACT OF GLOBALIZATION ON GENDER WAGE
DIFFERENTIALS IN CZECH REPUBLIC**

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ABSTRACT

Economic theory provides numerous reasons why globalization might increase or decrease female wages and gender wage gap. Main objective of this study was to study the impact of globalization on gender wage gap in Czech Republic and to understand how different explanatory variables affecting female wages have changed over time. To undertake the research, I considered two different years. First year, 1996, manifested the beginning of globalization in Czech Republic. Second year, 2017, manifested the current peak of globalization. Study utilized two micro datasets, Microcensus 1996, EU-SILC 2017 and sector level macro data. Decomposition of raw gender wage gap was undertaken with Oaxaca Blinder decomposition technique. Results reported that in both the years, female workers had better human capital characteristics and better returns to these characteristics. Therefore, contribution of endowment effect to gender wage gap was negative. Further, foreign direct investment inflows had a positive impact on female wages, but overall, male workers gained more from globalization in both the years. Lastly, female workers were concentrated in those sectors, which received lowest FDI inflows in both the years. This hints towards presence of occupation segregation in Czech economy, which has kept gender wage gap high.

Key Words: gender, wages, globalization, human capital, direct investment, wage gap, trade

ABSTRAKT

Ekonomická teorie přináší četné důvody, proč by globalizace mohla zvýšit nebo snížit mzdy žen a rozdíly ve mzdách žen a mužů. Hlavním cílem této studie bylo prostudovat vliv globalizace na rozdíly v odměňování žen a mužů v České republice a pochopit, jak se v průběhu času měnily různé vysvětlující proměnné ovlivňující mzdy žen. K provedení výzkumu jsem zvažoval dva různé roky. První rok, 1996, manifestoval počátek globalizace v České republice. Druhý rok, rok 2017, manifestoval současný vrchol globalizace. Studie využila dva mikrodátové soubory, Microcensus 1996, EU-SILC 2017 a makrodata na úrovni odvětví. Rozklad syrových rozdílů v odměňování žen a mužů byl proveden technikou rozkladu společnosti Oaxaca Blinder. Výsledky uvádějí, že v obou letech měly zaměstnankyně lepší vlastnosti lidského kapitálu a lepší návratnost těchto vlastností. Příspěvek dotačního efektu k rozdílům ve mzdách žen a mužů byl proto negativní. Příliv přímých zahraničních investic měl navíc pozitivní dopad na ženské mzdy, celkově však pracující muži na globalizaci v obou letech vydělali více. V neposlední řadě byly zaměstnankyně soustředěny v těchto odvětvích, která v obou letech zaznamenala nejnižší příliv přímých zahraničních investic. To naznačuje existenci segregace povolání v české ekonomice, která drží rozdíly v odměňování žen a mužů na vysoké úrovni.

Klíčová slova: pohlaví, mzdy, globalizace, lidský kapitál, přímé investice, mzdové rozdíly, obchod

Declaration of Authorship

1. The author hereby declares that he compiled this thesis independently, using only the listed resources and literature.
2. The author hereby declares that all the sources and literature used have been properly cited.
3. The author hereby declares that the thesis has not been used to obtain a different or the same degree.

Prague, Czech Republic

27th July, 2021

Signature

Banishwar Singh

The thesis is 23,410 words in length. The word count does not include Annexure and Bibliography.

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CHAPTER 1
THE EXORDIUM

1.1 INTRODUCTION

Often, I have speculated Jane Austen's characters as particularly feministic with prime female leads shedding the ideas of marriage and familyhood in orthodox British State of 1700s. But how would those characters be today, in the highly globalized time, when gender roles have been reversed and an *earning woman* is a reality? When forces of globalization have turned in a colossal number of women into labor market? To speculate, *Elizabeth Bennet* and *Anne Elliot*¹ would have been presented in an office romance securing equality at workplace. The debate whether globalization has exacerbated gender inequality or not has been going on now for almost half a century. Indisputably, globalization has increased the economic output and income of the households across the countries, but such growth has been questionable for augmenting inequality (Benería et. Al 2000). Gender norms have been modified by economic processes and inequality has shapeshifted into a new spectrum. Unequal access to labor market and job opportunities, glass ceiling effects, unequal pay and intersectionality discrimination are the new Leviathan. In Czech Republic alone, gender pay gap is one of the highest in European Union, where average gender pay gap in European Union is 15.7%, while in Czech Republic is 20.1% (Eurostat 2021). Under the communist regime, the scope of gender wage differentials was limited by the policy of centrally designed wage system. Wages were designed with respect to occupation, industry and how arduous the work was, while gender was eliminated in the design. Nonetheless, wage inequality was still persistent due to occupation segregation of women in low-paid jobs and glass ceiling effects (Jurajda 2000). Women earned roughly 70% of what men earned in 1988 in Czechoslovakia (Jackman and Rutkowski 1994). However, development of wages of women is highly questionable since transition period and this study attempts to comprehend such development and how it is affected by globalization. Study deploys the Microcensus 1996 and European Union Statistics on Income and living Standards (EU-SILC) 2017, comparing the wage differentials, and simultaneously providing accountable reasons for the same.

In order to effectively encircle the gender inequality and economics, understanding of gender pay gap, the difference between the income of men and women in an industry or a country, becomes inevitable. it must be noted that the word "income" in the definition has been used in a deliberated broader sense, to encircle all forms of remunerations, whether monetary or non-monetary and manifests homogeneity with the expressions "wage", "salary" or "benefits". Although each term has its own specific meaning and intention, they will be used

¹ Protagonists of Jane Austen's novels *Pride and Prejudice* and *Persuasion*.

interchangeably to compliment the analysis. Gender pay gap has been utilized to measure the magnitude of existing discrimination at the workplace against women, in the term of less payments as compared to their male counterparts. Microdata and surveys provided access to individual characteristics of men and women, notably their productivity, and wages of men and women with equal productivity were compared to understand the inequality. Multiple factors, which distinguished men and women in respect of human capital, were taken into considerations and a gullible attempt was made to understand explained part of gender wage gap (Oaxaca 1973, Blinder 1973, Weichselbaumer and Winter-Ebmer 2005). However, capacity of such “traditional” economic factors to grasp the market behavior was limited, as observed in various empirical studies, researchers shifted their focus from traditional variables to non-traditional variables, partly because of the existence of large unaccounted component of discrimination and partly because of the augment in the study of psychological traits (Blau and Kahn 2017). Non-cognitive traits and skills like bargaining power and motivation have been studied and their potential impact on female wages have been accessed (Card et. Al. 2016). Furthermore, effects of unionization, trade and globalization have also been a prime focus and their impact on gender pay gap have been a center of studies like Even & Macpherson (1993), Oostendorp (2013) and Artecona & Cunningham (2002).

In the interest of current research, globalization can influence female wages through multiple channels. As per the distinguishable paper “The Economies of Discrimination” by GS Becker (1971), employers have a taste for discrimination due to which they are willing to pay more or less to a factor of production. There lies a discrimination cost which is bore solely by the employer to satisfy his taste for discrimination. However, as competition increases in the market, which is a reaction of globalization, non-discriminatory firms will enter the market and will drive out the discriminatory firms, in long run. This climaxes to the conclusion that employers and firms who previously paid less to women, to discreetly indulge in their taste for discrimination, will start paying equal if not more. Hypothesis developed by Becker (1971) has been complied in the work of Black and Brainerd (2004). In this paper, authors have found out that increasing trade reduces the firm’s ability to discriminate and leads to betterment of women. But they also discovered a positive relation between trade and gender wage gap. This further explains the complex structure of globalization and its impact of gender wage gap.

Globalization can have both narrowing as well as widening effect on gender wage gap in an industry or a country. under the narrowing effect, globalization will reduce the firm’s ability

to discriminate due to increasing competition (Becker 1971, Black and Brainerd 2004), it will boost the job opportunities and absorb more women in the labor force (Ozler 2000, Standing 1999) and lastly, yet more logically coherent, increasing globalization will improve the quality public good and will increase household income. This will further facilitate to improve human capital and a reduction in gender inequality will follow. Under the widening effect, globalization will reduce the payments of scarce factor of production, which traditionally can be linked with women. Secondly, increasing trade can increase the occupation segregation and decrease the leisure time for women, which can demotivate women to have a long-term job (Fontana and Wood 2000).

Globalization inflicted a profound impact on the lives of men and women in Czech Republic. While socialistic state in Czech Republic promised gender equality, full employment and promoted paid work amongst women, the immediate post socialist reforms offered a contrary image. Czech Republic conformed with the standards of Marxist ideology and ensured *women's emancipation* right after the establishment of socialist state in late 1940s. Consistent with this, followed rampant nationalization of private property, which altered the social structure and redefined the gender relations. Women were blended into the work force on large scale, they were expected to participate in political activism and household chores were to become a communal responsibility (True 2003). Nonetheless, women's emancipation also served several indirect objectives, besides the objective of gender equality. Firstly, the industrialization process shifted a large number of male workers from clerical jobs to high pay blue collar jobs. Women were expected to fill the respective gap. Secondly, women's emancipation was expected to deliver a broad ideological victory for communism. A strong and independent woman was expected to educate upcoming generations about communism (Fodor 2003). However, this radical transformation of women's role was soon realized to be unfeasible and settled with the strategy that promoted women's participation in paid work only (Einhorn 1993). The problem of wage gap and occupation segregation was also prevalent and no efforts were made to resolve them. The end result was that, by early 1980s, women were equally participating in paid work and were also responsible for household chores, which kept them under the "double burden" (Fodor 2005).

Post 1989 period, radical economic and political transformation took place. Czech economy was liberalized, privatized and globalized. As a result, social structure and gender relations were once again changed. Women's emancipation drive left a long-term impact on status of women in Czech Republic. Women were more career driven and well educated. But post

globalization of the economy, Czechs witnessed a massive loss of jobs and there was unemployment (Fodor 2005). To tackle the problem of unemployment and minimize the social impact of transition, Czech government introduced various social schemes like guaranteed minimum wage, health benefits and incentives for women to leave work force, which aimed at managing unemployment rate. The transition from socialism to capitalism negated all the aspects of gender equality which were promoted earlier. As argued by True (2003), “*transition was perceived as moving back to what is natural: to Europe, to private property and to hierarchy between the sexes.*”. Problems such as gender wage gap, harassment at the workplace, glass ceiling effect and domestic violence reemerged.

This study shows that how gender has evolved after 1989, i.e., after the episode of globalization. The prime point of enquiry is not the social changes caused by globalization, for instance, shifts in the role of family. Nor the point of enquiry is shift in political representation of women after globalization. Study strictly envisions the development of women in labor market post globalization, enquires whether inequality in the wages between men and women has declined and what role globalization has played in it. In a more refined manner, study focuses on the impact of globalization on gender wage gap in Czech Republic.

Prior studies have accounted well for gender wage gap in Czech Republic but forces of globalization have been ignored in the analysis. Mysíková (2012) utilized the European Union – Statistics on Income and Living Conditions 2008 (EU-SILC) to explain and quantify gender wage gap in Czech Republic, along with Hungary, Poland and Slovakia. Differences in individual gender level characteristics explained gender wage gap in Czech Republic but a large part was still unaccounted for. Křížková et al. (2010) focused on within job gender wage gap in Czech Republic. From the period of 1996 to 2004, women working in the same job in the same organization, earned 10% less than their male colleagues. Possible reasons for the same were family responsibilities, motherhood and weak legislative system. Jurajda (2003) compared the structure of gender wage gap in Czech Republic and Slovakia. Using the data from 1998, he culminated that over one-third of gender wage gap was explained by occupation segregation in Czech Republic. In the same line, Bílková (2017) analyzed the development of gender wage gap in Czech Republic over the period of 20 years. She assessed a downward trend in difference between male and female income since 2009. All these papers, and many other papers discussed in literature review, has something in common. They all collectively negate the effect of forces of globalization on female wages. given the importance that globalization has played in shaping the post transition gender relations,

negating the forces of globalization in the analyses doesn't seem obvious. This study attempts to fill that gap.

This study is an attempt to capture the impact of globalization on gender wage gap in Czech Republic, to assess the scope and magnitude of the such impact. This is the first study with respect to Czech Republic which deploys the Microcensus 1996 and EU-SILC 2017. Microcensus 1996 was conducted to assess the standard of living and household income of the sample in Czech Republic, while EU-SILC 2017 surveys the individual as well as household level income of a percentage of population for the year 2017. The years 1996 and 2017 have been selected to manifest the time period when globalization began in Czech Republic (suitable comprehensive microdata is only available for 1996 and not before) and when globalization is at its peak (2017). Wage development of these two years will be compared to assess a figurative impact of globalization on women wages. Finally, to quantify the impact that globalization has on gender wage gap, wage differential of men and women in both years will be regressed on human capital variables, trade flows in Czech Republic & Foreign Direct Investment flows in Czech Republic, the latter two reflecting the level of globalization.

Section 1.2 throws light on extensive literature covering three dimensions, globalization, women and gender wage gap. Section 1.3 delineates theoretical framework, working as base for the research. Section 2 explains the methodology deployed for the analysis and data utilized. Section 3 provides the descriptive as well as regression results for 1996 and 2017. Section 4 is a commentary on the results, followed by conclusion.

1.2. SURVEY OF LITERATURE

1.2.1. LITERATURE ON GLOBALIZATION'S IMPACT ON WOMEN

Paper takes into account two strands of existing literature. Firstly, it considers the impact globalization has incurred on the development of women. Under this, empirical literature and arguments favoring both the perspectives, globalization has *improved* or *deteriorated* the condition of women, is discussed. The second strand of literature focuses entirely on a much petite theme, i.e., globalization's impact on gender wage gap.

Beginning with the trade openness, globalization has translated into growing economic interdependence and integration of the economies. To define the phenomenon, Al-Rodhan

and Stoudmann (2006) states that “*Globalization is a process that encompasses the causes, course, and consequences of transnational and transcultural integration of human and non-human activities.*” Cross national flow of goods, services and information has changed the way people communicate. Frequency of cultural exchanges has increased and social norms and social structures are being redefined perpetually. Changes have adjusted lives of every section of the society, including women. There has been widespread feminization of labor and consumer market, benefits of which have been reaped by women across the globe. On the contrast, women have been confined to low paid jobs and gender equality has become more complex (Gray 2006). Discussion about how globalization has changed lives of women has dual perspectives, one acutely critical and another sanguine. Abundant evidence is available that supports either argument.

Feminist studies have widely focused on the negative contributions of globalization, especially economic globalization, on the lives of women. Globalization has been perceived as a force that exploits women in less developed countries. Export-led manufacturing sector employs women from the less developed countries for mass production of goods, which then are exported globally. In the process, women are subjected to low status/pay jobs and inequality (Diane and Pearson 1981)

Ahmed (2004) supports the argument in his case study of garment industry of Bangladesh. Garment industry in Bangladesh employed large number of women from rural middle class for factories in 1990s. workers were compelled to work for low wages and their unionization was discouraged extensively. MNCs shifted their production processes to Bangladesh because availability of docile female work force. Ahmed noted that women workers were easy to manipulate in order to make them work at lower wages. Hence globalization on one side, provided employment to a large chunk of women in Bangladesh, but on the other hand, exploited the naiveness of rural women also.

Contrary view is also available which suggests that globalization has reduced the female labor force participation rates. Wacker et al. (2017) finds that foreign direct investment and trade has a negative impact on female labor force participation in 80 countries. Authors studied the data from 1980 to 2005 for 80 developing countries. There results were opposite of the traditional view. They found out that trade and FDI inflows have decreased the female labor force participation rates across the cohort of 80 nations.

Richards and Gelleny (2007) analyzed the impact of economic globalization on status of women. They utilized the data from 1982 to 2003 for a cohort of 130 countries. They employed five different aspects of women status and noted that globalization, overall, in majority of the aspects, is associated with the improvement of status of women. Authors also pointed the discussion into a new direction stating that globalization results to cutback in social expenditure and privatization, which deteriorates the status of women (Ruspini 2019). They noted that countries are redesigning their policies in a fashion that attracts more investment and proliferates trade. This exercise requires cutting budget and privatization of services like health, sanitation and education. This shifts the policy deteriorates those sections, including women which have low political representation and cannot protect the schemes that benefit them.

Dresser (2001) studies the impact of privatization on the female labor market in United States. Author employed Current Population Survey 1998 to analyze the impact of privatization of public sector. Hispanic and African American women in United States depended on public sector for secure wages and benefits in return for employment. Privatization of public services like health, sanitation and pension will make women vulnerable at the hands of private companies.

Correa (2015) studies the countries of Latin America and delineates the impact of privatization of pension system in the region. Privatization of pension system has maintained the existing gender inequality in the society and reduced the redistributive policies of state that earlier benefited women. Women's contribution in private pension systems in all the countries where private pension system is mandatory, is lower than men. The effect is augmented by cut in redistributive schemes of government, rendering the situation worse.

Another strand of researchers focused on impact of trade liberalization policies on female employment and earnings. Standing (1999) argued that the practice of reducing cost of production lead to search for flexible labor. The immediate visible solution was to provide jobs to unemployed women. Women were readily available to work at lower wages, were less unionized, were much more flexible and were not hesitant to work in harsh conditions (Ozler 2000)

Trade liberalization in Mexico diminished wages and employment rates of women in white collar jobs. Reduction of tariff facilitated use of modern technology, which altered the production processes and reduced the demand for physical labor (Juhn et al. 2013). Authors

analyzed the impact of inclusion of Mexico in North American Free Trade Agreement (NAFTA) in 1990s.

Dollar and Kraay (2002) and Richards and Gelleny (2007) provide an optimistic context of globalization. They note that globalization spurs the engines of economic development and spill overs of the same are absorbed by all sections of the society, including women. Globalized market based on neo-liberal policies increases the output of firms, which increases the income and standard of living of all sections of the society.

Nassani et al. (2018) observed that in selected 24 European countries, from 1990 to 2015, investment inflows improved primary and secondary school enrollment of girls. Furthermore, tourism induced by globalization had a positive impact on gender parity index. This implies that on the interaction of globalization forces and nation's economy, substantial benefits are reaped by women. Authors noted that tourism and finance, as a corollary of globalization, improved women's employment, women's enrollment in tertiary education and their share in non-agriculture activities.

Standing (1999) held the viewpoint that structural adjustment policies and search for flexible labor has rendered employers to employ more women in jobs. This has changed the nature of multiple jobs, which are continuously being tailored to complement female workers. Furthermore, positive spill overs have facilitated the adoption of modern technology and business upgradation for small & medium enterprises. Businesses gain easy access to large international capital surplus which can be tapped for upgradation. This has created additional surplus of jobs and raised wages.

Maqsood (2014) explored that, in South Asian Association for Regional Cooperation (SAARC) countries, foreign direct investment (FDI) and urbanization had a significant positive impact on female labor force participation rate. FDI increased the competitive pressure and unveiled a large market for new jobs. Similarly, Ouedraogo and Marlet (2017), developed on the rationale that inward FDIs provide more opportunities to women, create technological spillovers and induce corporate responsibility, analyzed a panel of 94 countries to culminate that FDIs improve general women welfare. They analyzed the cohort of countries from 1990 to 2015 and concluded that countries where institutions are not developed, gain from FDI are difficult to reap. Hence women benefit most from FDI in those countries where women have easy access to labor market and resources.

Sassen (1996) notes that the moment women start earning, alterations in status quo gender hierarchical structures are observed. At household level, women become more independent. A study of Mexican household supports the argument presented. As more job opportunities are created in the market, induced by investment, women's decision-making power within the household increases. Women gained more autonomy when making decisions on private goods and women's authority on household budget also increased (Majlesi 2017). This implies that more job opportunities increase the bargaining power of women within the family.

Similarly, Potrafke and Ursprung (2012) used the data for 120 countries and found that globalization strengthens the social institutions that ensure gender equality. They started the analysis from 1970 for the intervals of 10 years. They note that globalization has improved the institutions that promote gender equality and impede women subjugation.

Priestley (2002) elaborates how education policies of nations have been radically changed, primarily explained by response of governments to globalization. Teriquezz (2020) analyzes the data from 2009 to 2017 for 87 countries. The results culminate that globalization as measured by KOF globalization Index, had a positive correlation with primary education level of girls.

Another extension of literature delineates the positive role played by multinational corporations (MNCs) in the course of development of women. MNCs infiltrate the host economy by establishing a new plant or by acquiring an existing one. In either scenario, MNCs bring with them modern technology and progressive labor regulations, which were already being practiced in parent company, and now supposedly, will be extended to subsidiaries as well. A pioneer study in the context of technology transfer was done by Marshall (1985). He noted that technology exchange from industrialized economies will boost job market in developing countries. The effect will increase the earnings of women, extricating women from patriarchal hierarchies, shattering the inequalities and ensuring elevated status through education, higher income and autonomy.

Mears (1995) noted that MNCs have the tendency to forgo the discriminatory labor practices prevailing in host country and often resort to deploying policies that ensure equal pay for equal work, maternity benefits, anti-harassment policies and equal opportunities. This is further complimented by Corporate Social Responsibility (CSR), a self-regulatory practice used by MNCs to guarantee betterment and upliftment of margined sections of society. Prügl (2015) notes that CSR is a consequence of neo liberalization of feminism and many MNCs

are coming forward to look out for their female workers. Shakti Project by Unilever, a British MNC, aims to expand its consumer market in South Asia. To materialize the objective, Unilever operates Shakti Project in India, which aims to employ rural women to sell products to large untapped market in rural villages. This has promoted entrepreneurship in women, raised their income and promoted self-esteem, which altogether translates into autonomy and authority in the domain of decision making (Prügl 2015).

1.2.2. LITERATURE ON GENDER WAGE GAP

Literature on gender wage gap started with the phenomenon book by Becker (1971), “The Economics of discrimination”. Becker defines wage inequality by comparing wages of equally productive workers by controlling for human capital parameters. Oaxaca (1973) conducted the empirical research in United States labor market to capture the understanding of wage differential between men and women. He used Survey of Economic opportunity 1967 for the research. Oaxaca used back then, an innovative decomposition method to decompose the male and female wage equation into two parts, explained and unexplained. After adjusting for important human capital characteristics, he noted that a large portion of unequal pay for equal work can be explained due to discrimination.

Blinder (1973) used Panel Study of Income Dynamics to study the impact of various factors on wage inequality. He decomposed the wage equation into reduced form and structural form. He noted that endowment differences attributed nothing to gender wage inequality and majority of the wage differences were based on discrimination. After 1973, majority of the wage differential studies have used the methodology developed by Oaxaca and Blinder. Even present analysis deploys similar methodology.

After 1973, literature on gender wage gap is mostly divided into the different factors used as an influencer on female wages. Most importantly, human capital characteristics like education and work experience have been widely used to explain the gender wage gap. Wright and Ermisch (1991) studied the impact of human capital variables on wage inequality in Great Britain. They used the data for 1980, Women and Employment Survey, which measures the actual work experience of workers. They controlled for variables such as education, potential experience, actual experience and region. They noted that if discrimination in the market was absent, women’s pay will be 20% higher.

Weichselbaumer and Winter-ebmer (2005) conducted a meta regression analysis to identify the different parameters used to calculate gender wage gap. They analyzed more 700 studies on gender wage gap and noted that when an analysis is based on a homogenous set of population, like newly married only, it impacted the results significantly. They also studied the potential explanatory power of potential work experience, a proxy for actual experience.

Polachek (2004) used the Luxemburg Income Study for United States and nine other countries. He noted that human capital theory, though predicts that earnings of a workers grow as investment in human capital grows, worker's commitment to long time work is also important. He notes that in 1990s, women's commitment to work has declined, which has affected their earnings as well.

Blau and Kahn (2006) calculated the gender wage gap from 1978 to 1998 using the Panel Study of Income Dynamics to study the slowing convergence in male and female wages. They used the various selection techniques and included variables that measured unionization, occupation upgradation and human capital. Results showed that slowing convergence is not explained by human capital, as women's returns to endowment have increased in past years. But wage gap is predominantly explained by unexplained part.

Cohen and Huffman (2007) studied the impact of female managers on gender wage gap. They used the combination of 2000 Census and I-PUMS to study the workers from 24 to 54 age group. They noted that having a female manager at the top position, reduced the gender wage gap.

Nyhus and Pons (2012) studied the impact of personality traits on gender wage gap between the Dutch workers. They used DNB Panel Survey for the year 2005. They used the framework of the big five personality traits and few other frameworks to account for personality variables. They culminated that differences in personality traits of the workers accounted for around 11% of wage differences between men and women.

Blau and Kahn (2017) studied the trends in gender wage gap in United States from the period of 1980 to 2010. They used the infamous Panel Study on Income Dynamics. They noted that human capital's explanatory power over gender wage gap has declined over the period as women's endowment factors have become more stronger as compared to men. They noted that occupation segregation and industry effects explained the large portion of gender wage gap now.

Redmond and McGuinness (2019) studied the gender wage gap in Europe. They used the European Skills and Jobs Survey for the year 2014. They noted that in the East European countries, gender wage gap is unexplained by 100%, implying that human capital differences doesn't account for gender wage gap. however, differences in job preferences, industry and job segregation explain the gender wage gap in other countries.

In the context of gender wage gap in Czech Republic, literature offers a limited number of studies. Brainerd (2000) used the household surveys of East European countries, including Czech Republic to understand the gender wage gap. he noted that despite facing the disturbance caused by transition, women have been benefitted by labor market more than men. He noted that women have been gaining more individual level characteristics, which is contributing to reduction of gender wage gap.

Jurajda and Planovsky (2000) and Jurajda (2003) studied the decomposition of gender wage gap in late transition countries. Authors used employer-employee dataset for Czech Republic and Slovakia to decompose the gender wage gap. occupation segregation accounted for about one third of the gender wage inequality in Czech Republic. However, in private sector, more than 60% of gender wage gap was explained by gender discrimination.

Křížková et al. (2009) studied within job gender wage gap in Czech Republic for the year 1998, 2002 and 2004 by using firm-level data. They wanted to study the impact of gender equality legislation introduced in Czech Republic due to its accession in European Union. They noted that new legislations do not change the existing gender wage gap. factors like motherhood and family responsibility renders women working at same level earn 10% less than their male counterparts.

Mysíková (2012) studied the gender wage gap in Czech Republic by using European Union Statistics on Income and Living Conditions 2008. She noted that a small part of gender wage gap was explained by individual characteristics while large part was still attributed to occupation differences.

1.2.3. LITERATURE ON GLOBALIZATION'S IMPACT ON GENDER WAGE GAP

First wave of literature that empirically studies the impact of globalization on gender wage gap started with Becker (1971), who in his phenomenon book "The Economics of discrimination" noted that those employers have a *taste for discrimination* and in order to

satisfy their appetite, employers are willing to pay more (less) to some employees. However, as more competing firms enter the market due to increase in import (globalization), wage inequality caused by *taste for discrimination* will be pushed away by non-discriminatory firms. Competition shifts the market power from the hands of discriminatory employers. Becker empirically tested the results on white and non-white workers, further segregated by gender.

Becker (1971) theory has been tested in various empirical studies. In a study by Ashenfelter and Hannan (1986), authors discussed the impact of market power in banking industry on female employment. Authors employed the microdata for 120 banks operating in New Jersey and Pennsylvania. The results suggested that as market power in the banking industry decreases, the share of female employment in the banks increases.

Black and Brainerd (2004) studied the impact of trade on manufacturing industries from 1976 to 1993. They divided the firms into concentrated vs competitive firms to find the evidence for Becker's model. They noted that trade has tendency to increase the gender wage gap, but it also reduces the power of firms to discriminate.

Oostendorp (2009) studied the impact of globalization on gender wage gap using International Labor Organization's October Enquiry for a cross country analysis. His analysis focused on within the job gender wage gap. results noted that as trade and FDI in rich countries increased, within job gender wage gap reduced in those countries.

Chen et al. (2013) studied impact of exports on gender wage gap in China. They noted that foreign and exporting firms provide more employment to women folks and contributed to reduction of gender wage gap. existence of gender wage gap in exporting and foreign firms I explained by differences in gender productivity. Similarly, gender wage gap in non-exporting firms s attributed more to discriminatory practices.

Braunstein and Brenner (2007) combined the household level survey with provincial level macro data on FDI inflows to study the impact of globalization on gender wage gap. they noted than in 1995, women were the prime gainers due to increasing FDIs but in 2002, male workers became the prime gainers. This shift was explained by the shift in the policy of investors to move to highly skilled sectors, where women were less employed.

CHAPTER 2

THEORETICAL FRAMEWORK,
METHODOLOGY AND DATA

2.1. THEROETICAL FRAMEWORK

The section of theoretical framework is divided into two strands. The first strand delineates how globalization will impact the status of women. Globalization has been contested in both the perspectives, it can alleviate the status of women through increase in employment, higher wages, higher education and more autonomy. On the contrary, it can deteriorate the status of women via job segregation, low payments and budgetary cuts in social schemes. First strand provides the base arguments for as how globalization can increase female wages, ultimately declining gender wage gap. The second strand focuses solely on the impact of globalization on female wages and gender wage gap chiefly. Again, globalization can either increase the gender wage gap by decreasing the payments to female workers, severe job segregation and reduced bargaining power. On the contrary, globalization can reduce the gender wage gap via channels such as increasing employment, eliminating *taste for discrimination* and increased investment in human capital.

2.1.1. GENDERED PERSPECTIVE OF GLOBALIZATION

There are various channels, that theory suggests, via which globalization can deteriorate the status of women. Firstly, with the increasing interconnectedness of national economies, global firms or MNCs had been targeting low-income countries to meet their labor demands. MNCs have been subcontracting production processes to low-income countries due to availability of cheap labor. Arguably, they employ cheap women labor to support their production factories while the work is exploitative in nature, includes low wages, subduing of unionization and no growth prospects. This ultimately translates into exploitation of female workers and segregation of women into low paid jobs. The operating rationale behind this, as noted by Elson and Pearson (1981), is that technology required for sophisticated products, like electronic and industrial goods, is monopolized by developed counties. On the contrast, technology required for unsophisticated goods, like textiles, wooden and plastic goods, requires a standardizes technology and production process for these goods is labor intensive. Labor force in less developed countries is available at low wage rate and often are ignorant of their rights. Furthermore, they offer superior productivity to cost ratio and were willing to work for low wages, which renders such markets as suitable for mass production. Women in these countries were initially, abundantly unemployed, and when offered with a job, market absorbed a large influx of cheap women labor.

Standing (1999) notes that the reason why women are paid less than men is because women are readily available to work at low salaries and have low growth objectives or aspirations. Majority of women are merely motivated by the fact of additional income in the household. Empirical evidence is provided by Ahmed (2004), where author notes that Bangladesh's garment industry has been used as an offshore harbor by MNCs to support their production. Ahmed states that women from rural villages in Bangladesh were largely employed in garment industry, because they were ready to work for comparatively low wages and there was less risk of women getting unionized. Similarly, (Smith 2016) notes that export-based industries in developing countries are heavily dependent on female labor force, with some Asian countries having around half of the total labor force as women. Nonetheless, the employment of women in developing countries is concentrated in low paid jobs.

Secondly, in order to facilitate trade and attract more investment in an economy, a set of neoliberal policies is required, which involves reduction of tariffs and rampant privatization, including privatization of public services. All these sets of policies aim at a unified objective; smooth and effective integration of nation's economy into global economy. Furthermore, as witnessed in *transition* economies, international agencies like International Monetary Fund and World Bank have often exercised their power to lend funds to these economies, on pre-conditions of reducing government expenditure on social schemes and opening of trade. This is called structural adjustment programs. In order to secure funds for smooth transitioning into globalized world, countries were required to reduce the expenditure pressure on government exchequer. This translates into less expenditure on social schemes that benefit sections such as women and elderly people.

As noted in literature (Richards and Gelleny 2007, Ruspini 2019), budgetary cuts, privatization of public services and structural adjustment programs impacted different sections of the society differently. Politically well represented sections suffered less on account of these policies whereas, sections whose political representation was low, like that of *women*, suffered the most. A severe cut in social schemes expenditure deteriorated the condition of women in the society, who were regular beneficiaries of such schemes (Richards and Gelleny 2007). Furthermore, job security for women was higher in public sector as compared to private sector. Women enjoyed higher wages and better security in public sector in United States (Dresser 2001). With privatization, women were left at the hands of corporates, who operated, not with any ideological aim, but with the sole aim of profit maximization. Additionally, privatization of services like sanitation, health and pension

impacted women more than men. Correa (2015) notes that privatization of pension system in Latin American nations rendered women's contribution in pension accounts lower than that of the men.

Apart from this, diffusion of norms and ideas across international platforms is also linked with development of women. There is an increase in transfer of values, beliefs and norms which obstruct the patriarchal outlooks of the society and facilitate gender equality. International organizations, such as United Nations General Assembly and European Union have deliberated their separate set of rules and regulations that promote development of women (Richards and Gelleny 2007). "Gender Mainstreaming" is one such strategy, that aims to solidify the role of women in every dimension of policies, programs or projects. Nonetheless, the point of enquiry of this research is limited to how globalization has impacted wage inequality between men and women. All other dimensions, notably political, social, cultural or legal will be overlooked.

Theory predicts different channels via which, globalization can improve the status of women. Firstly, globalization ignites the engine of growth in an economy and opens opportunities for women which can alleviate their status in the society. The operating rationale here works as following: open markets created by globalization will create competition and stimulate economic growth. Neoliberal policies will induce investment in the economy creating more jobs and raising standard of living of all sections of the society, including women (Dollar and Kray 2002, Acker 2004). In European countries, investment, competition and tourism, all three incited by globalization, uplifted the education level of girls, further translating into better jobs and higher pays (Nassali et. Al 2018).

Secondly, direct investment and trade opportunities has led to feminization of labor force. Jobs have become more women centric and employment rate of women has increased like never before. Diane and Pearson (1981), Standing (1999) note that search for flexible and cheap labor force had led to globalization of production and had shifted production processes to the East and Europe. To support the production factories, MNCs employed a large number of women from these countries, not as a strategy to promote gender development but to reduce cost of production, as women were available for low wages. Standing argues that although, globalization of production has exploited women in some fashion, but overall, it has provided an essential opportunity for women, i.e. to enter the paid market.

Standing notes that jobs are constantly being altered to render their compatibility with female workers. Further, it has increased the overall household income of the families, opening multiple arenas, otherwise unavailable. Besides that, positive spillovers created by technology transfer and investment has created more opportunities for women.

Sassen (1996) further delineated the benefits of women entering the paid employment. She stated that, moment when women start earning, alterations in status quo gender hierarchical structures are observed. At household level, women become more independent. Their decision-making power is augmented and control over budgetary resources increases. As women's control become more prominent in household, their status in society upgrades. In long term, this translates into further economic, social and political opportunities. A study of Mexican household supports the argument presented. As more job opportunities are created in the market, induced by investment, women's decision-making power within the household increases. Women gained more autonomy when making decisions on private goods and women's authority on household budget also increased (Majlesi 2016).

Thirdly, investments in technologically mature sectors have geared up the demand for skilled and educated labor force. To ensure a quality supply of labor force, nations are rampantly investing in human capital and infrastructure. As evaluated by Richards and Gelleny (2007), the objective of improving human capital has increased the level of education received by women. More educated the women are, more alleviated their status is. Priestley (2002) and Teriquez (2020) also delineate that education policies are being altered in a fashion to raise their compatibility with global force and globalization has increased the enrollment of girls in primary school. This all culminates to one point: development of women.

Lastly, MNCs have initiated globally, a self-regulatory practice to ensure development of societies where they are present. This is called Corporate Social Responsibility (CSR). Prügl (2015) explains two initiatives by two large MNCs, Unilever's Shakti Project and Levi Strauss and Company's HERproject, each in its unique way ensuring empowerment of women. Furthermore, Mears (1995) suggested that MNCs avoid the existing discriminatory practices prevailing in the market, when they enter a host economy. They foster their own policies that ensure equal pay, equal opportunity and restrict any other discriminatory practice.

2.1.2. GLOBALIZATION'S IMPACT ON GENDER WAGE GAP

Literature suggests various channels via which globalization will instigate a decrease in the gender wage gap. At the forefront (firstly) is, the theory of discrimination proposed by Becker (1971). The proposed theory states that employers have an inherent *taste for discrimination*, and in order to satisfy the appetite for discrimination, employer must be willing to trade off certain elements. Becker states that *money* is one such measure, which is traded off to indulge in taste for discrimination. In order to discriminate, employer will be willing to pay less or pay more to certain factors of production. To emphasize on the what Becker emphasized “If someone has a “taste for discrimination,” he must act as *if* he were willing to forfeit income in order to avoid certain transactions” (Becker 1971, pg. 16). This further materializes to an important premise: to discriminate, employers have to forego a part of their profits and that discrimination is a costly exercise.

In the case of present research, if an employer has a taste for discrimination against women, he/she will be reluctant to give jobs to women, even if it is more rational and optimal decision. Even if women employees are willing to work at market wage rate (or lower), employer will prefer, in order to indulge in “taste for discrimination”, to employ male employees at a higher wage rate.

Becker argues that given the assumption that male and female workers are perfect substitutes of each other, i.e., both have same productivity, employers with a “taste for discrimination” against women, will employ more men than women, by compromising the profits. The reduction in the profit is the cost paid for discrimination. Becker, further argues that, if competition in the industry increases, by any means, non-discriminatory employers will start employing a greater number of women than men, raising their profits. Operating rationale behind this is, as wage rate of women in the market will be low, non-discriminatory employs will try to optimize cost by employing cheaper factor of production and as more women will be employed, there market wage rate would rise eventually. This would reduce (eliminate) discriminatory employers from the industry in the long run, reducing (eliminating) wage gap².

The theory has been tested in several empirical papers (Black and Strahan 2001, Black and Brainerd 2004, Ashenfelter and Hannan 1986). In the study by Ashenfelter and Hannan

² Becker discusses various conditions that need to be met for this relationship to hold. See Becker (1971), see “The Economics of Discrimination” 2nd edition.

(1986), Authors delineated that as market power in banking industry decreased in New Jersey and Pennsylvania, so did the discriminatory practices against the women. Similarly, Hirata and Soares (2016) tested the theory in Mexico and culminated that increasing competition is an important determinant of wage differences. Their results found robust negative relationship between the both.

Second channel via which globalization can decrease the gender wage gap is that, increase in trade and investment will create more job opportunities for women. This will lead to extensive feminization of workforce. Further, as demand for female workers will rise, so will their wage rate, decreasing the gender wage gap (Standing 1999, Ozler 2000). Furthermore, as per the neoclassical trade theory, increase in trade will benefit those factors of production, which is in abundant. Trade also increases the demand for unskilled workers for production processes. Assuming that unskilled female workers are large in number, their demand will increase and so will their wages (Chen et al 2013). However, this also comes with a caveat. If the supply of women increases unprecedently, due to their shift from unpaid work to export industries, their supply will rise, resulting in fall of their wages. Further, if a country has gender differences in human capital, (education, working experience), demand for unskilled workers will eventually be replaced by demand for skilled workers. Women, unable to meet the standards of the market, will be exposed to unemployment and low wages (Hunt 2002).

Third channel via globalization causes a decrease in the gender wage gap is linked with human capital development. As investment and trade in an economy increases, availability of infrastructure in the country becomes equitable and quality of infrastructure improves as well. Further, quality of public services increases and altogether, this results in decrease in differences in human capital between men and women (King and Mason 2000). Munshi and Rosenzweig (2006) studies how globalization has increased the education enrollment of girls in India. Better educated, girls will be able to take advantage of opportunities created by globalization.

On the contrary, theory doesn't provide a concrete proof of how globalization brings a fall in gender wage gap. Literature has identified different channels which will lead to an increase in gender wage gap. Firstly, conventional economic theory presumes that with an increase in trade, the returns paid to scarce factor of production will be affected adversely, as compared to the returns paid to abundant factor of production. Holding this true, in a developed

economy, if female workers have a skillset lower than that of male workers, wages of female workers will fall more abruptly than that of the men (Oostendorp 2009).

Secondly, trade and investment will increase the competition in the market. Increasing competition will affect the bargaining power of women, especially considering the fact their representation in politics and unions is limited. As competition in export-oriented industries increases, bargaining power of unskilled female labor will decrease, making it easier for employers to pay them lower wages (Seguino 2005).

Thirdly, feminization of labor force segregates the female workers from high paying jobs. Women get concentrated in export-oriented industries and in low paid unskilled jobs. Abundant literature analyzed for the present research suggests that impact of globalization on gender wage gap varies across the countries and region.

2.2. METHODOLOGY

Existing literature provides different methodologies to measure gender wage gap. All the methodologies, more or less, focus on quantifying the impact of different factors that determine the gender wage gap. Prominent methodologies which have been used in the literature of gender wage gap are regression with a gender dummy, Oaxaca Blinder decomposition, Juhn, Murphy and Pierce decomposition, Heckman model of selection-correction, Mincer wage equation and Ñopo decomposition (Goraus et al 2015, Blinder 1973, Juhn et al. 1993, Oaxaca 1973).

Out of all these methods, Oaxaca Blinder decomposition method has been prominently used. Present study also relies on the decomposition of wage gap based on Oaxaca Blinder concept. Before decomposing the raw wage gap, researchers of gender wage gap have extensively relied on Mincer's wage equation (Mincer 1974). Under this wage equation, human capital's effect on earnings is computed. Most commonly used determinants, education and work experience, is used as the starting point. This study also starts by exploring the impact of human capital on male and female wage equations.

2.2.1. OAXACA BLINDER DECOMPOSITION

Oaxaca Blinder decomposition method is a method which analyzes the wage gap between two groups (male-female, white-nonwhite) and provides the result by segregating the wage

difference into two parts, one which is due to productivity difference and one which is due to potential discrimination. The beginning of Oaxaca Blinder Decomposition model occurs by estimating the separate wage equations through Ordinary Least Square Method, as per the Mincer's Human Capital wage equation. Consider the two separate wage equations for male and female as below:

$$\ln W_m = X_m b_m + \epsilon_m \quad (1)$$

$$\ln W_f = X_f b_f + \epsilon_f \quad (2)$$

In the equation (1) and (2), $\ln W_m$ and $\ln W_f$ are log wages of male and female, where subscript m and f is used for males and females respectively. Log wages of both the gender is the function of Vector X . Vector X_m manifests the human capital characteristics such as schooling and work experience of male workers. Similarly, Vector X_f represents human capital characteristics of female workers. ϵ_m and ϵ_f are the error terms respectively and assumed to be uncorrelated with other independent variables. b_m and b_f are parameter vectors of male and female characteristics respectively. Both the equations will be used to calculate Parameter Vectors by employing Ordinary Least Square Methods.

It must be noted that, in the further analysis, the wage equation of male and female workers will not be restricted to merely human capital variables of education and work experience. But, other control variables such as age, capital city, industry and not to forget, proxy for globalization (Trade and inward FDI), will be also included.

Next, after estimating the parameters for control variables, β_m and β_f , using ordinary least square (OLS) technique, from the two wage equations (1) and (2), we can calculate the mean wages by filling the respective parameter values, at mean of the vectors. The resulting equations will be as following:

$$\overline{\ln W_m} = \overline{X_m} \beta_m \quad (3)$$

$$\overline{\ln W_f} = \overline{X_f} \beta_f \quad (4)$$

Let us presume that female workers are being paid equal to what male workers are being paid, at the same level of characteristics. This will form another hypothetical equation for hypothetical mean wage of female workers, as following:

$$\overline{\ln W_f^*} = \overline{X_f} \beta_m \quad (5)$$

Using the equation (3), (4) and (5), we can compute the gender wage gap equation of Oaxaca Blinder decomposition. To obtain the decomposition equation from equation (3), (4) and (5):

$$\overline{\ln W_m} - \overline{\ln W_f} = (\overline{\ln W_m} - \overline{\ln W_f^*}) + (\overline{\ln W_f^*} - \overline{\ln W_m}) \quad (6)$$

By rearranging the values:

$$\overline{\ln W_m} - \overline{\ln W_f} = (\overline{X_m} \beta_m - \overline{X_f} \beta_m) + (\overline{X_f} \beta_m - \overline{X_f} \beta_f) \quad (7)$$

Equation (7) can also be expressed as:

$$\overline{\ln W_m} - \overline{\ln W_f} = (\overline{X_m} - \overline{X_f}) \beta_m + (\beta_m - \beta_f) \overline{X_f} \quad (8)$$

Equation (8) represents the Oaxaca Blinder decomposition³. The left-hand side of the equation (8) is the raw gender wage gap. The first component of on the right-hand side of the equation, i.e., $(\overline{X_m} - \overline{X_f}) \beta_m$ is called the *explained part or endowment effect*. Endowment effect reflects the difference in earnings of men and women when women are paid the same for equal level of personal or job characteristics. It is the difference between mean male wage and hypothetical female wage, when female workers are paid equally for as male workers, for equal level of characteristics. In short, it manifests that part of the equation, which is due to productivity difference between men and women.

³ For Stata implementation of Oaxaca Blinder, see Jann (2008).

The second component on the right-hand side of the equation, $(\beta_m - \beta_f)\bar{X}_f$ is called *unexplained part* or *remuneration effect*. It represents the difference between hypothetical mean female wage and observed mean female wage. If supposedly, men and women were being paid equally for equal job characteristics, remuneration effect will turn out to be 0. This reflect that there is no discriminatory factor at the play. This component explains difference in the wages between men and women, which is due to the discrimination (Jann 2008).

2.2.2. LIMITATIONS OF OAXACA BLINDER DECOMPOSITION

First major limitation of Oaxaca Blinder decomposition technique is that in order to obtain successful and reliant results, observed characteristics should be measured as accurately as possible (Goraus et al. 2015). However, the limitation of microdata renders it difficult to calculate certain important characteristics accurately. For example, majority of the data sets, variable *labor market experience* is not evaluated. So, to tackle this problem, researchers use the formula of *Potential Experience* as Age – Years in Schooling – 6 (Kunze 2018). Using the variable *Potential Experience* for female workers can be extremely misleading as women have sporadic labor force participation pattern.

Second, Oaxaca Blinder method does not take into account the pre market discriminatory practices. If the discrimination in education attainment is widespread in the society, as a result of which women are not getting education, then the results of the decomposition can be overestimated.

Third, the problem of omitted variable bias can make the results less reliable. Given the complexity of the characteristics that are interacting with each other while accessing the wage differential between men and women, it becomes more frequent that some important variables get excluded from the analysis. For example, if higher earnings of workers working in coal extraction/mining is taken into consideration, and *industry* variable is not controlled for, gender wage gap can be exaggerating as women working in coal mines is unlikely.

Recent literature has successfully accounted for problems related to error term and omitted variable bias. As the data sets have become more qualitative, availability of important parameters that are gender specific, is increasing. Data sets related to tax registry have made it possible to account for actual work experience rather than potential work experience. This expands the reach and reliability of the analysis (Kunze 2018).

Blau and Kahn (2016) notes that educational differences and labor market experience differences explains a significant portion of raw gender wage gap. Adding further important productivity-industry factors such as industry, occupation and union status, and important personal characteristics such as marital status, age, ethnicity, race and number of children further alleviates the quality of the analysis⁴.

Inclusion of important personal as well as job related characteristics increases the explanatory power of the model. This rationale is beautifully captured in the theory of intersectionality. Term “intersectionality” was introduced in 1980s to capture the dynamics of difference with respect to antidiscrimination (Cho et al. 2013). It provides a framework to analyze the existing social institution and how categories in the social institution are interacting with one another (Atewologun 2018). It has been widely used in feminist studies to explain how different elements such as race, ethnicity, class or location interact with each other, and produce a complex picture of gender discrimination. Taking bits from intersectionality theory, we have included characteristics such as nationality and residence of Prague.

Blau and Kahn (2016) have explained that inclusion of personal and job-related characteristics improves the explained part of Oaxaca Blinder decomposition. Characteristics commonly used the empirical literature are education, work experience, age, marital status, children, occupation, industry, union status etc. have been used widely and prominently. Weichselbaumer and Winter-Ebmer (2005) conducted a meta regression analysis to understand the different factors used to explain the gender wage gap. discussion reveals that, factors such as marital status and industry-occupation have a major impact on gender wage gap. further, the use of variable *potential experience* is expected to increase the unexplained gender wage gap. however, this is not true. Similarly, Mysíková (2012) explained similar results with similar parameters for Central and Eastern European countries, Blau and Kahn (2016) showed the results for United States using similar parameters.

Another important observation to consider before carrying out the analysis, is that, potential explanatory power of certain characteristics changes over the period of time. For example, explanatory power of education and work experience changed in United States from 1980s to 2000s. Blau and Kahn (2016) explains that women have been participating in labor force at much larger rate than previous decades. This has increased their overall work experience. Similarly, in education, women have emerged out as the strata with more years of education

⁴ In the present analysis, all the paramount variables are included in regression estimate, within the capacity of given datasets. datasets used for this study doesn't measure ethnicity and race.

than men, improving the gender wage gap. Kunze (2018) notes that analysis over a period of time becomes important to understand how different characteristics have evolved.

Considering the above, we will analyze the gender wage gap of the target country, Czech Republic, for two years, spanning over a period of 21 years. The first year selected is 1996, while the second year selected is 2017. Although, this selection of years is not random, but is coherent with respect to globalization, analyzing these two years will provide the movement of different characteristics and their explanatory power. The discussion will answer the question that how individual and job-related characteristics have evolved over the period of time and how they have influenced female wages in Czech Republic.

2.2.3. PROXY FOR GLOBALIZATION

Lastly, we will bring the readers' attention back to the central theme of the research, how globalization has affected gender wage gap and female wages in Czech Republic. In order to capture the impact of globalization on gender wage gap, empirical literature has summed up different methodologies. Oosterndorp (2009) analyzed the impact of globalization on occupational gender wage gap by regressing trade and FDI variables using the International Labor Organization October Enquiry data for 83 countries.

Black and Brainerd (2004) compare the gender wage gap in competitive industries and concentrated industries, in manufacturing sector. Concentrated industries are those which are least affected by trade while competitive industries are those which are most affected by the trade. As a measure of globalization, authors used trade variable. Bøler et al. (2015) used the employer employee data to study the gender wage gap differences in exporting and non-exporting firms. Authors tested the hypothesis that exporter firms discriminated more with female workers, hence had higher gender wage gap. Chen et al. (2013) compared the wage and productivity differences in male workers and female workers in domestic, foreign, exporting and non-exporting firms in China. Braunstein and Brenner (2007) and Jameilaa and Kawabata (2018) both synthesized the micro level wage data and macro level trade and FDI data to study the impact of globalization on gender wage gap.

Above, we have mentioned three prominently used measures to assess the impact of globalization on gender wage gap. firstly, to determine the impact of trade data on concentrated and non-concentrated industry. Secondly, to compare the wage differential in

exporting and non-exporting firm. Thirdly, to assess the impact of macro level trade data on micro level wage data. Present study relies on the third type of measure, synthesis of micro level and macro level data. As a proxy for globalization, trade in the respective year and FDI inflows in the respective year, are used. Further, Gross Domestic Product at current prices is also used to represent globalization.

2.3. DATA

For the empirical research, two primary datasets are used. The first dataset is Microcensus 1996 and second dataset is European Union Statistics on Income and Living Conditions (EU-SILC) 2017. Both the datasets were acquired from Czech Statistical Office. Microcensus 1996 was conducted to assess the standard of living of people living in Czech Republic. It contains collective information on household characteristics and individual characteristics. For the purpose of present study, individual data is used solely.

Individual dataset of Microcensus 1996 contains total observations for 71836 individuals and delivers a set of 28 variables. As the dataset contains a chunk of information, which is unnecessary for the analysis and inclusion of which will only increase biasness of the results, such variables and observations have been excluded from the analysis. It is noteworthy that, to increase the homogeneity in the data, only full-time workers have been included. Full time workers have been identified as those workers who have worked more than 30 hours in a week (Black and Brainerd 2004). Furthermore, analysis has taken into account only economically active individuals and excluded unemployed, pensioners and full-time students. Students and part-time workers have been excluded because their individual characteristics might be different from full-time workers (Mysíková 2012). Pensioners and unemployed have been excluded in order to create a homogenous group of individuals suitable for analysis. From the cohort of economically active individuals, only those individuals have been selected who are working as an employee under someone/something, while self-employed have been excluded. The rationale is that, earnings of self-employed are irregular and inclusion would make results biased.

in the dataset, EU-SILC 2017, a total of observations of 19205 and 83 variables were provided. In order to contain homogenous group of population, which will be suitable for analysis, same data cleaning methodology was used as was used for Microcensus 2017. Only full-time employees working under some entities were included in the analysis. Part-time

workers, self-employed, pensioners, disabled persons and students were excluded to make the results as less biased as possible.

Furthermore, it must be noted that as both the datasets are different, certain variables are present in one dataset which might be missing in another. In that case, variable present in one dataset will not be used in another dataset, due to limitations caused by availability. For instance, proxy of whether an individual is from Prague or not is only used for Microcensus 1996 and not for EU-SILC 2017, as data is not available⁵. Further, proxy for whether a person holds nationality of Czech Republic or not is only available for EU-SILC 2017. Similarly, if an individual has a child or not is also available for EU-SILC 2017 only.

Below is the list of variables taken from Microcensus 1996 and EU-SILC 2017, with any alterations made or not:

- *prague*: This is a dummy variable for individuals living in Prague. All the individuals living in Prague (capital city) have been represented by 1 and all the individuals living outside Prague have been represented by 0. Mysíková (2012) notes that workers living in Prague have higher wages. Building on this rationale, this variable is included. It is only available for the year 1996.
- *age*: Represents the age of the workers.
- *gender*: Represents the broad segregation of gender into male and female
- *marriage*: Represents if the worker is single or married. If worker is single, it is represented by 0, if married, it is represented by 1.
- *edu*: Represents total number of years that individual has been into education. It must be noted that there is no discrimination when calculating the total number of years. All levels of education that worker has attained, are included in the total years of education.
- *uni*: This shows whether the worker has attended university or not. If yes, it is represented by 1, if not then 0. Rationale to include this dummy variable is, university education has a large positive impact on earnings of an individual.
- *hours*: Measures the number of hours the worker usually works, full-time. Empirical literature has ignored this variable often.

⁵ Although, both the datasets have been altered to represent homogenous population, certain variables are only available for alternative years.

- *numberE*: variable “numberE” is a dummy variable for measuring whether organization where worker is working is large or not. If organization has more than 50 employees, it is represented by 1, if less than 50 employees, it is represented by 0. This variable is only available for 2017.
- *nation*: variable “nation” is a dummy variable for workers holding nationality of Czech Republic or not. If worker is a national of Czech Republic, it is represented by 1, otherwise 0. Variable is only available for 2017.
- *manuf*: It is a dummy variable of whether worker is working in manufacturing sector or not. If working in manufacturing sector, it is represented by 1, otherwise 0.
- *Fwork*: it is a dummy variable of whether a worker is working in female dominated sectors. If worker is working in female dominated sectors, it is represented by 1, otherwise 0. The definition of female dominated sectors is based on the work of Williams (1992). Author notes that education, healthcare and social work are historically perceived as female dominated sectors. These sectors have been used as a proxy for female dominated sectors.
- *lnhwages*: lnHwages is the logarithmic values of hourly wages of male and female workers. Although data on both years didn’t provided the measure directly, they were obtained from the definition of gender wage gap given by Eurostat (Mysíková 2012). To obtain the hourly wages, yearly wages were divided by 12, which yielded monthly wages. Monthly wages were further divided by hours worked in a week multiplied by 4. The resultant, hourly wages, is then calculated in logarithmic values.
- *fdi*: variable fdi measures the inward Foreign Direct Investment (FDI) stock, as on 31st December 2017, in the corresponding industry where worker is working. For instance, if worker is working in retail industry, *fdi* variable measures the FDI stock in retail industry as on 31st December 2017. Importance of this variable is paramount as it will reflect whether a worker working in a particular industry, is being paid high wages because of the higher FDI in that sector or not. This control variable will be paramount also to access the impact of globalization on wages of both the gender as well. However, it must be noted that as FDI by sector data was not available for 1996, FDI inflows will not be used for the year 1996.
- *trade*: Variable *trade* represents the net trade (exports – imports) in the corresponding sector where the worker is employed. For instance, if the worker is employed in manufacturing sector, trade represents the value of net trade in that sector. Data on

trade is not available sector wise for the year 1996, hence it is only used for the year 2017. Even in the year 2017, the data for all sectors is not available, which poses a potential limitation to the analysis.

- *exp*: Variable *exp* represents the potential work experience for male and female workers for both the years. As both the datasets lack the data on actual work experience, the variable potential work experience has been used as a proxy. Potential work experience has been widely used in social sciences empirical research, when actual work experience is missing. It is calculated as age minus total years of education – 6 ($age - edu - 6$) (Mysíková 2012).
- *gdp*: As data for proxies for globalization is not available for the year 1996, Gross Domestic Product (GDP) at current prices is being used as a proxy for FDI inflow. Rationale to select GDP at current prices is that there is a consensus in the field of economics, that FDI yields a positive impact on GDP. With the increase in FDI, economic growth (GDP) of the country will rise (Hansen and Rand 2006). Further, for the year 1996, GDP at current prices is allocated region wise⁶. While for the year 2017, GDP at current prices is allocated sector wise⁷.
- *gva*: Gross Value Added at current prices is another proxy used in the year 1996, to compensate for missing globalization data. It measures the contribution of the regions of Czech Republic to the national economy, at current prices.

It is noteworthy that the study, briefly, controls for regional as well as sectoral segregation of worker's earnings. However, as data for both periods is skewed and not homogenous, controlling for both region and sector was not possible in both years. Therefore, region as a control variable has been used only for the year 1996 and sector as a control variable is used only for 2017. As per the methodology by Braunstein and Brenner (2007), I have allocated regional wise macrodata for 1996 (GDP and GVA at current prices), with respect to the region where the worker is working. So, if a worker was working in Central Bohemian Region in 1996, GDP value corresponding to that worker would be Central Bohemia Region's GDP at current prices. Likewise, I have allocated sector wise microdata for 2017 (FDI, trade and GDP at current prices) to the corresponding microdata of 2017. So, if a worker was working in Education sector in 2017, corresponding sectoral microdata will be observed.

⁶ See Annexure , for regions and sectors identified in the year 1996.

⁷ See Annexure , for sectors identifies in the year 2017.

Advantage of using this methodology is, that, it will deliver the results in the form of which regions and sectors have higher wages. If a particular region or sector has higher wages as well higher FDI or GDP, this could link to the argument that globalization has improved female wages and reduced gender wage disparity.

CHAPTER 3

EMPIRICAL RESEARCH

3.1. GENDER WAGE GAP IN CZECH REPUBLIC

Going through the transition phase after 1989, Czech Republic witnessed a shift in their policy framework, guided by their shift from communism to capitalist democracy. Under communism, Czech Republic adopted the policy of full employment, which rendered every capable individual, irrespective of gender, to work in the market. Wages and salaries were determined by the central authority, based on the factors such as type of industry, experience & education of workers and how arduous the work is (Munich et al., 1999, Jurajda 2003). Gender was not considered while deciding the wage rates, however, gender wage gap existed during communism. (Ham et al., 1998) notes that in Czechoslovakia (before 1989), gender wage gap was around 30% i.e., women earned 30% less than what men earned. Nonetheless, wage gap existed because of glass ceiling effect and occupation segregation of women into low paying jobs (Jurajda 2003). Glass ceiling effect noted that women were projected to discriminatory prejudices while promotions.

After the fall of communism in Czech Republic in 1989, practice of wage regulation at the center got annihilated. As a result, the wage disparity witnessed a rise. As noted by Svejnar (1999), wage inequality after the fall of communism was understood mainly by increasing returns to education. Further, after communism, female labor force participation rate fell more than male's, owing to the fact that women were encouraged to leave labor market, in order to compensate for the job losses incurred by male working class. Keeping other caveats, such as "double burden" on a side, to culminate the immediate perspective of transition on gender equality in Czech Republic, True (2003) notes that *transition was perceived as moving back to what is natural: to Europe, to private property and to hierarchy between the sexes.*

In order to successfully enter European Union, one of the preconditions was to "harmonize" the legislations with all other members. In order to meet this criteria, Czech Republic introduced the anti-discriminatory laws, akin to western democracies. Laws promoting equal pay for equal work, equal opportunity without any prejudice, protection from discrimination and harassment at workplace etc. were enacted (Jurajda 2004). These legislations directly targeted the practice of paying less for a similar job, which was the manifestation of gender wage gap.

Table 1 shows the movement of raw gender wage gap from 1996 to 2019 in Czech Republic. Data before 1996 is unavailable. Gender wage gap, as defined by

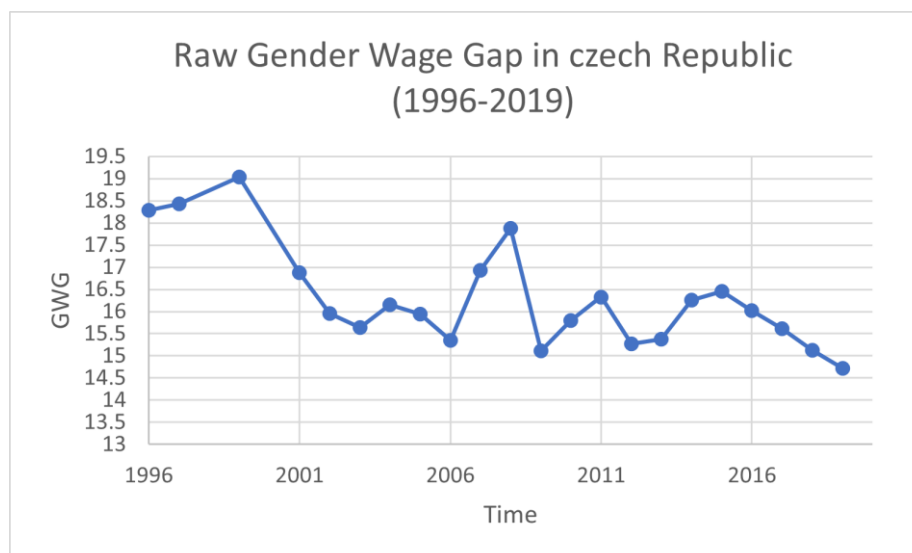


Figure 1. Raw Gender Wage Gap in Czech Republic (Source: OECD Data)

Organization for economic Co-operation and development (OECD) is the difference between median earnings of men and women, compared to the median earnings of men. In 1996, gender wage gap in Czech Republic was 18.2%, which rose to 19.1% in 1999. The rise in gender wage gap is in line with theory that female labor force participation fell during that period. Nonetheless, after the introduction of western-influenced gender equality policies, gender wage gap fell sharply to 16.8% in 2001 and 15.6% in 2003.

The significant decrease in gender wage from 1999 to 2003 is accounted well by Jurajda (2004). Although female labor force participation remained constant from 1999 to 2003, the explainable power of occupation segregation to understand gender wage gap in Czech Republic fell significantly. In 1998, occupation segregation reported for half of the raw gender wage gap, while in 2003, it fell to 33% (Jurajda 2004). The fall in gender wage gap reflects the positive change introduced by novel gender equality policies. Before the legislation, women were confined to low paid jobs, while legislations such as equal opportunity and equal pay, paved the way for decreasing gender wage gap.

Another change that transition phase in Czech Republic escorted was, the introduction of neo-liberal policies of globalization. True (2003) notes that transition process of Czech Republic, or in that case of whole Communist Block, opened a new research area to understand the movement of these economies into a more globalized market. Transition process in these economies was influenced by shock therapy and was comparatively fast

paced, when compared to that of the western economies. As markets extended beyond the borders, certain alterations were witnessed in status quo social structures. One such alteration, was with respect to the change in the nature, with which globalized markets interacted with the gender (refer to theoretical background).

As trade and investment grew in the Czech economy, gender was started to be utilized, as a mean to generate profits. True (2003) explains this concept as a part of commodification of gender in Czech Republic. Multinational corporations (MNCs) targeted the Czech market, which was already under the influence of western definitions of masculinity and femininity. Czechs were already witnessing the omnipresent influence of western culture, even before the transition started. MNCs severely targeted the gender market, as it secured more profit. This whole process further altered the existing social structure. Besides this, MNCs were aware of the flexible labor market prevailing in the transition economies, which gave a potential boost to the unemployed female labor force in Czech Republic. Further, globalization forced Czech Republic to alter their government budget. As tariffs were being reduced or removed to increase trade, government didn't have enough budget for social schemes. Solution was to privatize the social reproduction and public service sector.

Spectra where the effects of globalization on the Czech economy and gender is visible, are trade, foreign direct investment inflows and female labor force participation rate. Figure 2 shows the trade and FDI inflows of Czech Republic (both as a percentage of Gross Domestic Product GDP) from 1990 – 2019. Figure 3 shows the labor force participation rate for male and female population (as a % of their respective working population) for the similar time period. From the period of 1990 to 2001, trade increased from 63% of the GDP in 1990 to almost 100% of GDP in 2001. Whereas, FDI inflows increased from 1.6% of the GDP in 1993 to almost 10% of the GDP in 2002. Corresponding to this time period, male labor force participation rate fell from 72% in 1991 to 68% in 2002. On the contrary, female labor force participation rate fell from 60% in 1991 to 50% in 2002.

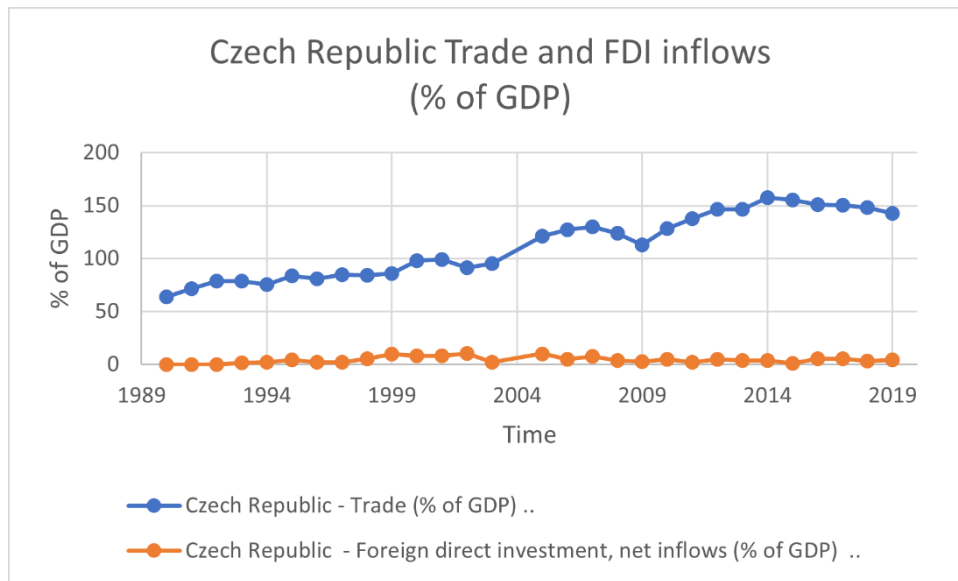


Figure 2. Czech Republic Trade and FDI inflows (Source: World Bank)

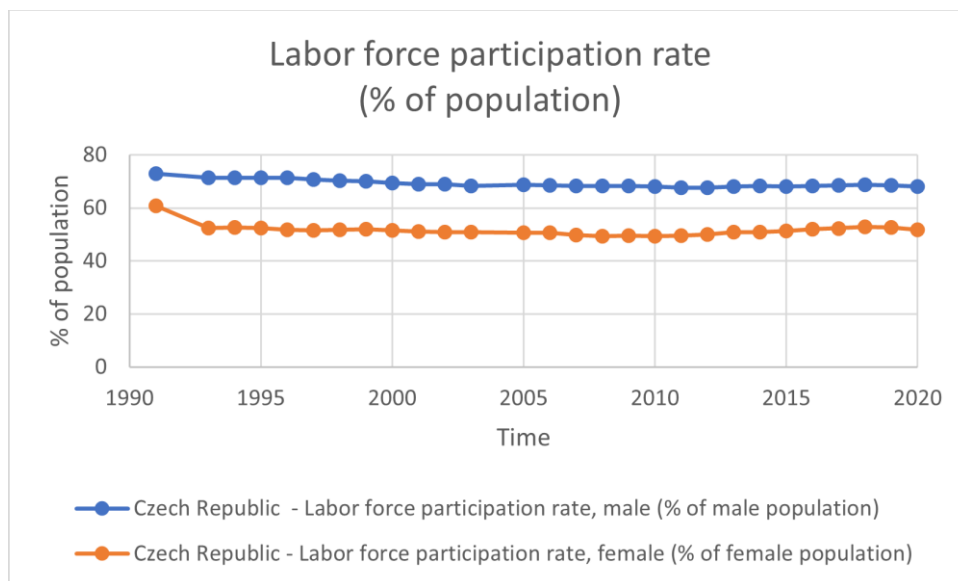


Figure 3. Labor force participation rate (% of population) (Source: World Bank)

Explanation of this behavior and relationship between the forces of globalization (FDI and Trade) and labor force participation rate is paramount. Increase in trade and FDI inflows during this period was escorted by the neo-liberal policies introduced by Czech Republic. Pavlínek (1998) notes that after the collapse of communism, cross border investment, which focused on export-oriented industries, increased. Further, there was significant increase in

investments that focused on capturing the market. Both types of investment gave boost to trade and increased further employment opportunities.

Caveat that readers might miss is that although there was increase in job opportunities due to increase in Investment and trade, benefits of surplus jobs was reaped, disproportionately, by male working class (Fodor 2005, True 2003, Jurajda 2003). Operating rationale behind the argument is that as Czech Republic entered the transition phase, a massive unemployment shock was inflicted on the economy. As a result, both men and women lost their jobs. In the coming years, the compensation for the loss of jobs, was provided to male workers, by forcing female workers to leave their jobs. To materialize this objective, social schemes like early retirement for women, maternal benefits and other benefits for women to leave workforce (Fodor 2005). The job vacancies created by female workers who left, were filled by male working class. Furthermore, most of the new jobs also were transferred to the male working class. As a result of this prejudiced policy in favor of male workers, labor force participation rate of males fell from 72.9% to 71.3% from 1991 to 1993, while female labor force participation rate fell from 60.8% to 52.3% from 1991 to 1993.

3.2. CZECH REPUBLIC IN 1996

Year 1996 is important in two aspects for present research; with regards to Czech Republic: first of all, year 1996 signifies, if not the immediate, but the beginning years of globalization in Czech Republic. Trade in this year was 81% of the GDP, which was growing since Velvet Revolution of 1989. FDI inflow in this year was 2.1% of the GDP (World Bank). Second, it is free from the effects of immediate shock that the transition submitted with itself. Accessing the wage gap for 1996 will produce a more vivid image of the impact of globalization on gender wage gap and female wages.

Table 1. number of workers in different sectors in 1996				
sector	Male workers	Percent	Female workers	Percent
1	979	6.89	463	4.19
2	509	3.58	80	0.72

3	5,227	36.8	3,413	30.92
4	335	2.36	101	0.92
5	112	0.79	37	0.34
6	2,046	14.41	279	2.53
7	997	7.02	1,673	15.16
8	283	1.99	363	3.29
9	1,195	8.41	350	3.17
10	212	1.49	278	2.52
11	159	1.12	292	2.65
12	38	0.27	62	0.56
13	347	2.44	275	2.49
14	940	6.62	777	7.04
15	355	2.5	1,221	11.06
16	309	2.18	1,209	10.95
17	160	1.13	165	1.49
Total	14,203	100	11,038	100

Source: Microcensus 1996, Czech Republic. Author's Computations.

Table 1 summarizes the number of male and female workers in different sectors in 1996. Male workers were mostly employed in manufacturing sector (36%) and construction sector (14%). Female workers were predominantly employed in manufacturing sector (30%) and female dominated sectors of education and healthcare (21%). This gives an image occupation segregation by gender in Czech Republic.

Table 2. Summary of Hourly Wage in 1996 (in CZK)				
Variable	Obs	Mean	Std. Dev.	Median
Male	14,203	64.04102	33.32367	58.234
Female	11038	47.13866	23.23432	43.50487

Source: Microcensus 1996, Czech Republic. Author's Computations.

Table 2 gives the summary of hourly wages in Czech Republic in 1996. Mean male hourly wage in 1996 was 64.04 Czech Koruna (CZK). On the contrast, mean female hourly wage in 1996 was 47.13 CZK. If we calculate raw gender wage gap at mean wages, then gender wage gap in 1996 was:

Mean male hourly wage – Mean female hourly wage = Raw Gender Wage Gap

$$64.04102 - 47.13866 = 16.90236$$

Raw gender wage gap in 1996 emerges out as 16.9 CZK. Before I decompose this raw gender wage gap according to the Oaxaca Blinder Decomposition (Oaxaca 1973, Blinder 1973), it is paramount to comment upon the basic statistics of the control variables, that will be taken into the model. Below is the summary of all the control variables that will be considered during the analysis of the year 1996.

Table 3. Summary statistics of variables, 1996					
	Male			Female	
Variable	Mean	Std. Dev.		Mean	Std. Dev.
Hwage	64.04102	33.32367		47.13866	23.23432
mwage	11331.97	6414.905		7880.204	4062.601
eduyears	11.6505	3.896484		12.10745	4.293552
exp	20.62635	12.49205		20.04611	12.11127
gdp	238817.6	67757.33		240892.7	68069.7
gva	218664.3	62643.94		220585.4	62885.86
age	38.27684	12.01513		38.15356	10.89574
manuf	0.368021	0.482284		0.309205	0.462187
Fwork	0.046751	0.211112		0.220149	0.414366
prague	0.054496	0.227001		0.06233	0.241765
bachelor	0.108357	0.310842		0.085795	0.280073
marriage	0.747025	0.434732		0.811379	0.391225
observations	14203			11038	

Source: Microcensus 1996, Czech Republic. Author's Computations.

Table 3 summarizes all the variables which will be considered for the modeling of 1996 year. Monthly mean male wage in the year 1996 were 11331 CZK while monthly mean female wages were 7880 CZK. What is more intriguing is the fact that mean years of education

(*eduyears*) received by male workers (11.65 years) is less than the mean years of education received by female workers (12.1 years). Difference in average educational level between male and female workers is explained by the strong legacy of communist Czechoslovakia. Communism in Czechoslovakia focused on the objective of *emancipation of women*, which focused on increase in participation of women in all spheres and change in the traditional role of women as housewives. Nonetheless, Fodor (2003) argues that under the drive for *emancipation of women*, government focused rapidly on educating women. There was a hidden purpose attached to it. An educated women was expected to deliver an ideological victory for communism, by imparting the knowledge about virtues of communism amongst coming generations.

Pattern observed in the table 3 could be explained partially by above rationale. Though, readers must not the caveat that Microcensus 1996 dataset did not directly provided the dataset for total years of education. It provided data for maximum level of education attained. Author calculated the total number of years by insights from Ministry of Foreign Affairs, Czech Reublic⁸.

On the contrary notes, mean potential work experience, calculated as $age - eduyears - 6$, is higher for male workers than female workers. Female mean work experience is 20 years while mean work experience for male workers is 20.6 years. Although difference is not paramount, its effect on wages could be significant. Implying that, although mean year of education received and mean work experience is more or less, same for both the genders, the mean difference in hourly wages and monthly wages is large. This means that human capital characteristics of male workers and female workers are not being remunerated equally, suggesting the influence of other factors or prevalence of discrimination.

Mean of dummy variables, *manuf*, and *Fwork*, provides interesting insights. *manuf*, which represents the dummy variable if worker is working in manufacturing sector (1) or not (0), shows that 36% of male workers worked in manufacturing sector while 30% of the female workers worked in manufacturing sector in 1996. Likewise, *Fwork*, which represents the if worker works in female dominated (1) sector or not (0), shows that only 4% of the male workers worked in female dominated sectors (education, healthcare and social care) while

⁸ Translation of “highest education attained” into “total years of education” was based on information from Ministry of Foreign Affairs, CR. URL: https://www.mzv.cz/washington/en/culture_events/education/education_system_in_the_czech_republic/index.html

22% of female workers worked in female dominated sectors. This reflects the prevalence of occupation segregation in the Czech Economy in 1996, as noted also by Jurajda (2003, 2004).

Moving to the macro variables, *gdp and gva*, average Gross Domestic Product (GDP) at current prices, for male workers across the eight regions of Czech Republic was 238817 million CZK, while female workers was 240892 million in 1996. Average Gross Value Added (GVA) at current prices was 218664 million CZK, while for female workers was 220585 million CZK. The rationale to include these two macro indicators was that, data for FDI inflows and trade, by sector or regions, was unavailable. To capture the hidden effect globalization on gender wage gap, GDP and GVA were included in the model, as FDI inflows are directly affect the economic growth (Hansen and Rand 2006).

Hypothesis that will be tested in the year 1996 are as follows:

1. With an increase in education, wages of female workers will increase.
2. With an increase in labor market experience, wages of female workers will increase.
3. Female workers working in female dominated sectors will have lower wages.
4. Gross Domestic Product will have a positive impact on female wages.

3.2.1. BASE HUMAN CAPITAL MODEL

Below are the indivial male as well as female wage equations which are based on the methodology of Oaxaca Blinder Decomposition. In the beginning, a base human capital model will be assessed, without taking into account the control variables for globalization and a few dummy variables.

$$\ln Hwage_m = \beta_0 + eduyears_m \beta_m + exp_m \beta_{1m} + bachelor_m \beta_{2m} + hours_m \beta_{3m} + \epsilon_m \quad (9)$$

$$\ln Hwage_f = \beta_0 + eduyears_f \beta_f + exp_f \beta_{1f} + bachelor_f \beta_{2f} + hours_f \beta_{3f} + \epsilon_f \quad (10)$$

Under the basic human capital model, logarithmic values of hourly wage ($\ln Hwage$) will be regressed on total year of education, potential experience, dummy variable for bachelor's degree and number of hours worked every week.

Table 4. Regression Output Base Human Capital Model		
Microcensus 1996, Base Human Capital Model, CZ		
Variables	Male	Female
Eduyears	0.042*** (0.001)	0.053*** (0.001)
Exp	0.006*** (0.000)	0.01*** (0.000)
Bachelor	0.243*** (0.014)	0.243*** (0.016)
Hours	-0.007*** (0.000)	-0.004*** (0.000)
_cons	3.752*** (0.028)	3.042*** (0.042)
Observations	14187	11018
R-squared	0.199	0.226

Source: Microcensus 1996, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses.

Table 4 provides the regression results for base human capital model for male and female workers in Czech Republic in 1996. The coefficient of determination for the male model is .199 while for female model is .226, which implies that basic human capital model explains the changes in log hourly wages of female much better. Further, total number of years education received has a coefficient of 0.042 for male wages and 0.053 for female wages. This implies that if both male and female workers receive an additional year of education, there hourly wages will change by 4.2% and 5.3% respectively.

With an additional year of experience, male hourly wage will increase by 0.6% approximately, and female hourly wage will increase by 1% approximately. Experience

yields stronger impact on female wages. Notably, having a bachelors degree will potentially increase your wages by 20% in both the genders. The result implies the positive returns to education Czech Republic. Overall, all the variables in base human capital model are statistically significant at 1% significance level.

Further, the base human capital model will be extended with considering additional individual as well as job related characteristics. In this model, another important factor, significant to the Czech economy, will be added to the model. Occupation segregation has widely affected the gender earnings in Czech Republic. As argued by Jurajda (2003. 2004), occupation segregation of female into low pay jobs accounted for more than half of gender pay differentials. The legacy of this tradition is traced back in the communism, when although men and women were equally remunerated and wages were decided centrally, often women were populated in the low paying sectors such as education, healthcare and social work.

To control for occupation differences, two dummy variables, *Fwork* and *mnauf*, will be included in the model *Fwork* captures if the worker is working in female dominated sectors of education and healthcare, while *manuf* captures if worker works in manufacturing industry. Besides this, individual characteristics like marriage and age will be included as well.

3.2.2. EXTENDED HUMAN CAPITAL MODEL:

$$\ln Hwage_m = \beta_0 + eduyears_m \beta_m + exp_m \beta_{1m} + bachelor_m \beta_{2m} + hours_m \beta_{3m} + marriage_m \beta_{4m} + Fwork_m \beta_{5m} + manuf_m \beta_{6m} + prague_m \beta_{7m} + \epsilon_m \quad (11)$$

$$\ln Hwage_f = \beta_0 + eduyears_f \beta_f + exp_f \beta_{1f} + bachelor_f \beta_{2f} + hours_f \beta_{3f} + marriage_f \beta_{4f} + Fwork_f \beta_{5f} + manuf_f \beta_{6f} + prague_f \beta_{7f} + \epsilon_f \quad (12)$$

Table 5. Regression output of extended human capital model, 1996		
Czech Republic		
Variables	Male	Female
Eduyears	0.042*** (0.001)	0.053*** (0.001)
Exp	0.006*** (0.000)	0.010*** (0.000)
Bachelor	0.263*** (0.014)	0.245*** (0.016)
Hours	-0.007*** (0.000)	-0.005*** (0.000)
Marriage	0.250*** (0.009)	0.006 (0.013)
Fwork	-0.160*** (0.018)	-0.041*** (0.011)
Manuf	0.024*** (0.007)	0.011 (0.010)
Prague	0.138*** (0.016)	0.177*** (0.017)
_cons	3.742*** (0.029)	3.078*** (0.043)
Observations	14187	11018
R-squared	0.2086	0.234

Source: Microcensus 1996, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses.

Table 5 provides regression output for extended human capital model for the year 1996. Effects of total years of education, labor market experience and having a bachelors experience is similar to that of the previous model. An interesting observation is yielded with respect to the marriage variable. If a male worker is married, his hourly wage increases by

28.4%. while if a female is married, her hourly wage increases by 0.6%. Also, for female wage extended human capital model, marriage is statistically insignificant. However, to account for it, the staggering difference that marriage yields on the hourly wages of men and women in Czech Republic in 1996, is complimented by the results of Hughes and Maurer-fazio (2002). Authors noted that married women faced higher gender wage gap than unmarried women. Explanation of this, in context of Czech Republic is based on the premises that during mid and late 1990s, women were widely encouraged to leave labor market, as in to create vacancies for their male counterparts. Further, as True (2003) delineates, transition resurfaced the traditional roles that women were expected to play, i.e., roles of housemaker and child raisers.

Working in a female dominated industry reduces the hourly wage of both men and women by 16% and 4% respectively. This further explains the occupation segregation thrust in Czech economy during 1996. Working in education and healthcare translated into low wages. Further, working in manufacturing industry increased hourly wage of male workers by 2% while it was statistically insignificant for female workers. Working in Prague, capital city, meant higher wages for both male and female workers. Male workers earned 13% more while female workers earned 17% more if they were working in Prague.

3.2.3. GLOBALIZATION MODEL

In this final model for the year 1996, additional variable, which are proxies for globalization, will be added. The variables, to be used as proxy for globalization, is GDP at current prices of different regions. Gross value added (GVA) has been dropped from the model, on the account of its high almost perfect correlation with log gross domestic product (GDP). Macro variable is distributed among the population with respect to the region, in which worker is working. The methodology, for the combination of microdata and microdata is, build on the empirical research of Braunstein and Brenner (2007). Further, in the model, sectoral effect on hourly wages of male and female workers will be assessed. Manufacturing sector, education sector and healthcare sector will be excluded from results, as they are already controlled for in dummies created for them. New Globalization model for male and female workers is as follow:

$$\begin{aligned} \ln Hwage_m = & \beta_0 + eduyears_m \beta_m + exp_m \beta_{1m} + bachelor_m \beta_{2m} + hours_m \beta_{3m} + \\ & marriage_m \beta_{4m} + Fwork_m \beta_{5m} + manuf_m \beta_{6m} + prague_m \beta_{7m} + lngdp_m \beta_{8m} + \\ & sector_{Nm} \beta_{Nm} + \epsilon_m \end{aligned} \quad (13)$$

$$\begin{aligned} \ln Hwage_f = & \beta_0 + eduyears_f \beta_f + exp_f \beta_{1f} + bachelor_f \beta_{2f} + hours_f \beta_{3f} + \\ & marriage_f \beta_{4f} + Fwork_f \beta_{5f} + manuf_f \beta_{6f} + prague_f \beta_{7f} + lngdp_f \beta_{8f} + \\ & sector_{Nf} \beta_{Nf} + \epsilon_f \end{aligned} \quad (14)$$

Table 6 produces the regression results of final four models for the year 1996. Model 1 captures the impact of log of GDP at current prices on the log of hourly wages. GDP was added as an extension to the extended human capital model. Impact of all the variables of extended human capital model is more or less same. However, the new variable, logarithmic value of GDP has showcased negative impact on male and female workers wage and the impact is equivalent. This showcases an important dimension of how globalization could have affected the female wages. The coefficient of log GDP for both male and female wages is significant at 1% significance level and measures 0.043.

Model 2 represents the regression results of sectoral effects on wages of male and female workers. This model is also an extension of extended human capital, but a control variable for sectors has been included. To check the list of sectors, refer to the Annexure. Inclusion of sectors has shifted the results when compared to the previous models. Working in female dominated sectors, education and health, has now a positive impact on female wages. Those female workers, who are working in these sectors, are earning 6% more than the females working in other sectors. Similarly, working in manufacturing sector make male workers earn 20% more than those who are working in other sectors, while women working in manufacturing sector earn 9% more. Further, working in hospitality and accommodation sector reduces male hourly wage by 10% female hourly wage by 15%. Similarly, working in mining industry increases the hourly wage of men by 42% comparatively 22% for women. Most discriminated sectors electricity, gas and water generation, real estate and postal and telecommunication.

Model 3 discusses the results of globalization model, where sector as well GDP is included. Here all the variables, that were part of extended human capital model are included, as well as dummy for all the identified sectors and logarithmic value of GDP.

Table 6. Regression output for globalization Model, 1996, Czech Republic

GLOBAIZATION MODEL, 1996								
	Model 1 (with GDP)		Model 2(Sector)		Model 3 (GDP Sector)		Model 4 (sector, region)	
Variables	Male	female	Male	Female	Male	Female	Male	Female
eduyears	0.035*** (0.001)	0.053*** (0.001)	0.033*** (0.001)	0.047*** (0.001)	0.033*** (0.001)	0.047*** (0.001)	0.033 (0.001)	0.047*** (0.001)
exp	0.001*** (0.000)	0.010*** (0.000)	0.001*** (0.000)	0.009*** (0.000)	0.001*** (0.000)	0.009*** (0.000)	0.001*** (0.000)	0.009*** (0.000)
bachelor	0.263*** (0.014)	0.245*** (0.016)	0.256*** (0.013)	0.252*** (0.017)	0.256*** (0.013)	0.253*** (0.017)	0.257*** (0.013)	0.254*** (0.017)
hours	-0.008*** (0.000)	-0.005*** (0.000)	-0.006*** (0.000)	-0.003*** (0.000)	-0.006*** (0.000)	-0.003*** (0.000)	-0.006*** (0.000)	-0.003*** (0.000)
marriage	0.250*** (0.009)	0.005 (0.013)	0.231*** (0.009)	0.000 (0.012)	0.231*** (0.009)	-0.000 (0.012)	0.231*** (0.009)	-0.000*** (0.012)
Fwork	-0.154*** (0.017)	-0.041*** (0.011)	0.014 (0.026)	0.064*** (0.024)	0.012 (0.026)	0.063*** (0.024)	0.010 (0.026)	0.062*** (0.062)
manuf	0.028*** (0.007)	0.012 (0.010)	0.210*** (0.014)	0.099*** (0.021)	0.211*** (0.014)	0.098*** (0.021)	0.209*** (0.014)	0.097*** (0.021)
prague	0.178*** (0.016)	0.200*** (0.019)	0.163*** (0.015)	0.176*** (0.017)	0.187*** (0.016)	0.199*** (0.018)	0.168*** (0.016)	0.200*** (0.019)
lngdp	-0.043*** (0.011)	-0.043*** (0.014)			-0.046*** (0.011)	-0.043*** (0.013)		
Sector 2			0.428*** (0.025)	0.275*** (0.052)	0.431*** (0.022)	0.275*** (0.052)	0.421*** (0.022)	0.264*** (0.052)
Sector 3			0	0	0	0	0	0
Sector 4			0.452*** (0.026)	0.227*** (0.047)	0.450*** (0.025)	0.225*** (0.047)	0.448*** (0.025)	0.221*** (0.047)
Sector 5			0.091** (0.040)	-0.003 (0.073)	0.091** (0.040)	-0.001 (0.073)	0.087** (0.040)	-0.008 (0.073)
Sector 6			0.163*** (0.015)	0.081** (0.033)	0.163*** (0.015)	0.079** (0.033)	0.161*** (0.015)	0.077** (0.032)
Sector 7			0.204*** (0.018)	0.040* (0.022)	0.203*** (0.018)	0.040* (0.022)	0.201*** (0.018)	0.038* (0.022)
Sector 8			-0.100*** (0.027)	-0.152*** (0.030)	-0.102*** (0.027)	-0.155*** (0.030)	-0.103*** (0.027)	-0.156*** (0.030)
Sector 9			0.148***	0.115***	0.148***	0.114***	0.144***	0.110***

			(0.017)	(0.030)	(0.017)	(0.030)	(0.017)	(0.030)
Sector 10			0.346*** (0.031)	0.222*** (0.033)	0.344*** (0.031)	0.221*** (0.033)	0.343*** (0.031)	0.218*** (0.033)
Sector 11			0.548*** (0.035)	0.506*** (0.032)	0.547*** (0.035)	0.504*** (0.032)	0.545*** (0.035)	0.502*** (0.032)
Sector 12			0.089 (0.067)	-0.003 (0.058)	0.090 (0.067)	-0.003 (0.058)	0.086 (0.067)	-0.004 (0.058)
Sector 13			0.171*** (0.025)	0.088*** (0.033)	0.172*** (0.025)	0.089*** (0.033)	0.170*** (0.025)	0.088*** (0.033)
Sector 14			0.237*** (0.019)	0.188*** (0.025)	0.236*** (0.019)	0.186*** (0.025)	0.234*** (0.019)	0.184*** (0.025)
Sector 15			0.040 (0.032)	0.002 (0.018)	0.042 (0.031)	0.003 (0.018)	0.044 (0.044)	0.002 (0.018)
Sector 16			0	0	0	0	0	0
Sector 17			-0.092*** (0.032)	-0.044 (0.039)	-0.092*** (0.035)	-0.046 (0.039)	-0.09*** (0.035)	-0.048 (0.039)
Region 2							0.034*** (0.013)	0.064*** (0.015)
Region 3							0.021 (0.014)	0.014 (0.017)
Region 4							0.040*** (0.040)	0.059*** (0.017)
Region 5							0.020* (0.012)	0.050*** (0.014)
Region 6							-0.048*** (0.012)	-0.018 (0.014)
Region 7							0.000 (0.010)	0.023* (0.012)
Region 8							0	0
_cons	4.306 (0.146)	3.611*** (0.178)	3.534*** (0.031)	2.995*** (0.048)	4.102*** (0.143)	3.531*** (0.176)	3.529*** (0.031)	2.976*** (0.048)
Observations	14187	11018	14187	11018	14187	11018	14187	11018
R-squared	0.2438	0.2351	0.2888	0.2684	0.2896	0.2691	0.2914	0.2712

Source: Microcensus 1996, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses

Based on Globalization Model, I will reject or fail to reject the four preliminary hypothesis. Firstly, with an increase in education by an additional year, wages of female workers increase by 5% approximately. Therefore, our hypothesis that education increases female wages is supported by the results. Second, with an increase in labor market experience by an additional year, female wages increase by merely 1%. Based on the metrics, the hypothesis will be further tested in the year 2017. Third, female workers working in female dominated sectors earn 6% more wages than other female workers. Hence, our third hypothesis is rejected. Finally, GDP at current prices had a negative impact on the female wages. With a percentage increase in GDP of the country, female wages decreased by 4%. Hence, hypothesis is rejected.

3.2.4. DECOMPOSITION

To decompose the raw gender wage gap according to Oaxaca-Blinder Decomposition method. First average hourly wages of men and women will be calculated by filling the values of coefficients in the model. Wages will be calculated at average characteristics. After filling the coefficients, average male hourly wage is 57.39 CZK and average hourly female wage is 42.14. this gives us Raw Gender Wage Gap as:

Average Male Hourly Wage - Average Female Hourly Wage

$$57.39 - 42.14 = 15.25 \text{ CZK}$$

Therefore, raw gender wage gap in 1996, in Czech Republic. To decompose this raw wage gap into *endowment effect* (explained) and *remuneration effect* (unexplained), equation (8) from the section Data and methodology will be used.

Table 7 shows the result of Oaxaca-Blinder Decomposition. Endowment effect, which contains the effects of education, labour market experience and others, contributes negative 6.65% to the raw gender wage gap. Negative contribution to gender wage gap implies that

Table7. Oaxaca-Blinder Decomposition Results, 1996		
	Coefficient	Percentage
Endowment Effect	-0.020*** (0.002)	-6.65%
Remuneration Effect	0.329*** (0.005)	106.60%

Source: Microcensus 1996, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses

endowments of women are more than that of the men in 1996. Total years of education and labor market experience of female workers is comparatively more than that of the male workers, hence endowment effect's contribution is negative. Overall, women have better returns to education and work experience in 1996, which has contributed to reduction of gender wage gap. On the contrast, remuneration effect explains 106% of the gender wage gap as endowment effect is contributing negative.

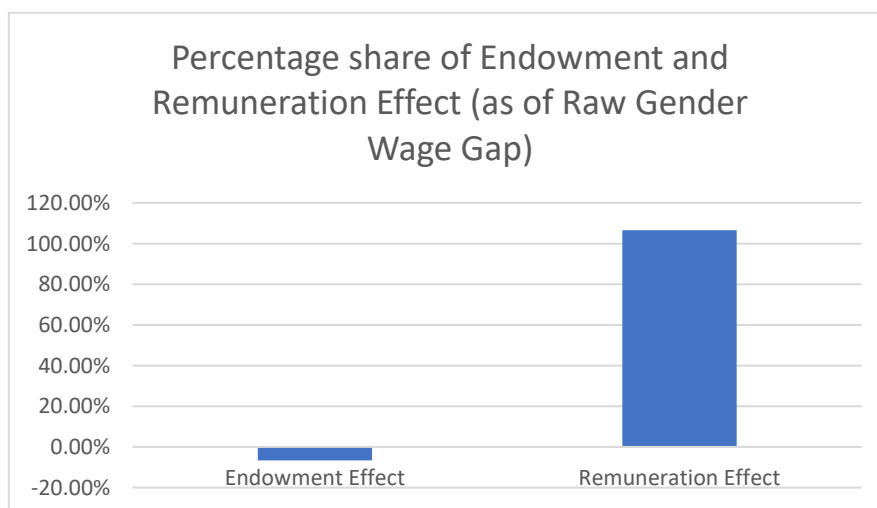


Figure 4. Percentage share of Endowment and Remuneration Effect

(Source: Microcensus 1996, Author's computations)

3.3. CZECH REPUBLIC IN 2017

Year 2017, data for which is extracted from European Union – Statistics on Income and Living Conditions, is important chiefly because this year, Czech Republic had the highest trade, as a percentage of gross domestic product, totaling to almost 150% of the GDP (CZSO 2020). Higher trade creates further opportunities for different strata of the society to be availed for. In this section, the impact of high trade, and in fact, higher foreign direct investment inflows (FDI), both of which are signals of increasing globalization, will be tested. The impact will be scrutinized on the female wages working in different sectors in the Czech Republic and how it has contributed to gender wage inequality. Further, the gender wage inequality will be compared to the decomposition carried out in previous section of 1996. Lastly, the analysis will also compare the explanatory power of different elements, to understand the female wage development, in both the years.

TABLE 8. Employees in different sectors				
Sector	Male	Percent	Female	Percent
1	143	4.03	67	2.18
2	36	1.01	5	0.16
3	1,290	36.36	757	24.58
4	70	1.97	23	0.75
5	58	1.63	19	0.62
6	333	9.39	48	1.56
7	312	8.79	403	13.08
8	317	8.93	121	3.93
9	64	1.8	114	3.7
10	124	3.49	43	1.4
11	68	1.92	108	3.51
12	17	0.48	24	0.78
13	114	3.21	97	3.15
14	348	9.81	322	10.45
15	104	2.93	380	12.34
16	77	2.17	450	14.61
17	44	1.24	47	1.53
18	29	0.82	52	1.69

Total	3,548	100	3,080	100
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Source: EU-SILC 2017, Czech Republic. Author's Computations.

Table 8 represents the sectoral distribution of male and female workers In 2017 in Czech Republic. Sectors have been numbered 1- 18 and names of the sectors can be found in Annexure. Male workers dominate in the manufacturing sector, with 36% of male labor force working there. Further, construction sector is also male dominated, with around 9% of the male labor force working there. Female workers on the contrast, dominates the traditionally identified female sectors, by Williams (1992). Education sector and health and social work sector accounts for almost 27% of the total female working force. This represents the presence of occupation segregation even after 21 years. Share of female work force is also high in manufacturing sector, 24% and wholesale and retail sector, 13%. Nonetheless, purely dominated sectors are still education and healthcare.

Table 9. GDP and FDI inflows by sectors		
sector	GDP	FDI Inflows
1	261418	7178.4
2	64721	14327.6
3	4519251	968862.9
4	372142	101083
5	124003	22092.8
6	800278	54333.2
7	1035026	293586
8	680432	33026.5
9	208086	15210.4
10	461989	184934.8
11	350893	957712.1
12	738654	313433.1
13	550464	224174.7
14	654181	39141.8
15	246534	913
16	327475	5088.9

17	111908	4609.5
18	83725	4581.1

Source: Czech National Bank, Czech Republic.

Table 9 manifest the gross domestic product at current prices (million CZK) and FDI inflows (million CZK) for the 18 sectors identified in Czech Republic. GDP in the sectors such as manufacturing, wholesale and retail, construction and real estate is the highest for the year 2017. On the similar notes, FDI was attracted mostly by the sectors manufacturing, finance and insurance and real estate activities. Although this table does not depict the average wages of male and female workers in the respective sectors, the further analysis will focus on that part, significantly, on the part where it will be scrutinized that do sectors which have high flow of FDI, do these sectors also pay women more or not. Before beginning the analysis, I will put forward the hypothesis that will be tested in the analysis of the year 2017.

- With an increase in the education, hourly wages of female will also increase.
- With an increase in labor market experience, hourly wages of female workers will increase
- With an increase in FDI inflows, hourly wages of female workers will increase.
- With an increase in trade in the sector, hourly wages of female workers will increase.
- If a female worker holds nationality of Czech Republic, her hourly wage will be higher than those, who are from outside of the Czech Republic.

Last hypothesis represents the intersectionality dimension of the gender discrimination. Necessity to control for this variable is paramount as discrimination, over the past years has evolved into a multidimensional dynamics, where factors such as religion, race, culture and country affect the magnitude of discrimination that women face (Atewologun 2018).

Below are the additional variables, which will be considered for the analysis of the year 2017. Besides the variables mentioned below, all the variables from the year 1996 will also be consumed, except regional control variable (*prague*).

- *child*: variable *child* measures the dummy category for if the worker has a children or not. If yes, it measures 1 otherwise 0.

- *numberE*: variable *numberE* measures the dummy category for what is size of the organization where worker is working. If organization has more than 50 employees, it measures 1, otherwise 0.
- *fdi*: variable *fdi* measures the FDI inflows in the sector where the corresponding worker is working. It measures all the values in million CZK and data has been extracted from Czech National Bank's database. For the analysis, logarithmic value of the variable will be used.
- *gdp*: variable *gdp* measure the GDP at current prices for the sectors where the corresponding worker is working. It measures all the values in million CZK and data is extracted from Czech Statistical Office. For the analysis, logarithmic value of the variable will be used.
- *trade*: variable *trade* measure the international trade in the corresponding sector where the worker is working. It measures all the values in million CZK and data is extracted from Czech Statistical Office. For the analysis, logarithmic value of the variable will be used. However, there is a caveat, as trade values for all the 18 sectors were not available, values available for only few sectors has been utilized in the analysis. Verifiable and reliable controls for globalization, hence, will be *gdp and fdi*.

	Male Workers		Female Workers	
Variable	Mean	Std. Dev.	Mean	Std. Dev.
Hwage	181.4	92.20116	140.6693	99.94177
Mwage	30554.87	16536	22741.52	15942.76
eduyears	13.52311	2.420609	13.6487	2.395724
Exp	23.05101	11.89172	24.07955	11.2387
Gdp	2019037	1902878	1494026	1746555
Fdi	427365.2	434752.2	332132.4	411229.5
trade	96953.77	130861.3	66245.67	115971.3
Age	42.57413	11.68663	43.72825	10.79162
marriage	0.567926	0.495435	0.601299	0.489711
hours	42.06821	5.353569	40.40552	3.661307
numberE	0.518038	0.499745	0.447403	0.497307
nation	0.977452	0.148478	0.978247	0.145901

bachelor	0.21195	0.408748	0.218507	0.4133
manuf	0.363585	0.481099	0.245779	0.430618
Fwork	0.051015	0.220059	0.269481	0.443762

Source: EU-SILC 2017, Czech Republic. Author's Computations.

Table 10 provides the mean and standard deviation of all the variables. Interestingly, hourly wage rate of men in 2017 is 181 CZK while hourly wage rate of women in 2017 is 140 CZK. Following the formula for Raw Gender Wage gap:

Mean male hourly wage – Mean female hourly wage = Raw Gender Wage Gap

$$181.4 - 140.6 = 40.8 \text{ CZK}$$

Raw gender wage gap in 2017 is 40.8 CZK, which is higher when compared to the raw gender wage gap of 1996 (16.9 CZK). Explanation of the raw gender wage gap will be addressed in the further section. Individual characteristics, like total years of education received is more for female workers (13.6 years) than male workers (13.5 years). Also, labor market experience of female workers (24 years) is also higher than that of male workers (23 years). This result is opposite to that of the 1996, when male workers had more labor market experience than female workers. Similarly, almost equal percentage of male and female workers have at least a bachelors degree (21%).

Occupation segregation is still prevailing in Czech Republic. From the table 8, female workers working in manufacturing sector has declined from 30% in 1996, to 24% in 2017. Biasness is more reflected in the female dominated sectors. Employment of female workers in female dominated sector is a humungous 27%, while male workers in female dominated sectors is only 5%. This reflects prevailing occupation segregation.

Moving to the macro variables, average GDP at current prices for male workers, received by all the sectors in the Czech republic was 2019037 million CZK, while for female workers was 1494026 million CZK in 2017. Gap between the male and female workers' GDP reflects the presence of potential discrimination. Further, FDI inflows for male workers was 427365 million CZK while for female workers was 332132 million CZK. The point that is relevant here is that, although the sectors taken into consideration are same for male and female models, the difference in GDP and FDI reflects the concentration of female workers in those sectors which have less GDP and attracted less FDI.

3.3.1. BASE HUMAN CAPITAL MODEL

In order to decompose the raw gender wage gap and to assess the explanatory power of different variables and compare them with the year 1996, following Base Human Capital model will be the opening point of enquiry. Separate equations for male and female workers will be accessed by taking into account the variables *edueyears*, *exp*, *bachelors* and *hours*.

$$\ln Hwage_m = \beta_0 + edueyears_m \beta_{1m} + exp_m \beta_{2m} + bachelor_m \beta_{3m} + hours_m \beta_{4m} + \epsilon_m \quad (15)$$

$$\ln Hwage_f = \beta_0 + edueyears_f \beta_{1f} + exp_f \beta_{2f} + bachelor_f \beta_{3f} + hours_f \beta_{4f} + \epsilon_f \quad (16)$$

Table 11 provides the regression results of the Base Human Capital Model for the year 2017.

Coefficient of determination of the male base model is 0.18 while coefficient of female model is 0.22, which suggests that Base human capital model explains female wages more eloquently. Further, with an additional year of education, male hourly wages increase by almost 10% while female hourly wages increase by almost 13%, suggesting that women have higher returns to education. The results are similar to the results of Mysíková (2012). Similarly, with an additional year of labor market experience, hourly wage of male workers increases by 0.2% and hourly wages of female workers increases by 0.5%.

What is more interesting to note is that if male and female workers have at least a bachelors degree, their hourly wage rate is negatively affected. Explanation for this behavior is difficult to capture as human capital theory predicts that tertiary education increases the remunerations received by workers.

lnHwage	Male	Female
Edueyears	0.102*** (0.007)	0.120*** (0.006)
Exp	0.002*** (0.000)	0.005*** (0.000)
Bachelor	-0.124*** (0.045)	-0.167*** (0.039)
Hours	-0.004*** (0.001)	-0.004** (0.001)
_cons	3.870*** (0.109)	3.299*** (0.117)
Observations	3544	3075
R-squared	0.1811	0.2271
Source: EU-SILC 2017, Czech Republic. Author's Computations.		
Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses.		

3.3.2. EXTENDED HUMAN CAPITAL MODEL

Further, the Base Human capital model will be extended by including additional control variables. These variables will reflect the individual as well as job related characteristics, which are expected to explain the gender wage gap (Blau and Kahn 2016). Variables that will be included will control for occupation segregation, chiefly *Fwork and manuf*, will control for the manufacturing sector and female dominated sectors. Further, job related characteristics like number of employees working in the organization will also be included. Individual related characteristics like *marriage, child and nation* will also be included in the model.

$$\ln Hwage_m = \beta_0 + eduyears_m \beta_{1m} + exp_m \beta_{2m} + bachelor_m \beta_{3m} + hours_m \beta_{4m} + marriage_m \beta_{5m} + Fwork_m \beta_{6m} + manuf_m \beta_{7m} + numberE_m \beta_{8m} + child_m \beta_{9m} + nation_m \beta_{10m} + \epsilon_m \quad (17)$$

$$\ln Hwage_f = \beta_0 + eduyears_f \beta_{1f} + exp_f \beta_{2f} + bachelor_f \beta_{3f} + hours_f \beta_{4f} + marriage_f \beta_{5f} + Fwork_f \beta_{6f} + manuf_f \beta_{7f} + numberE_f \beta_{8f} + child_f \beta_{9f} + nation_f \beta_{10f} + \epsilon_f \quad (18)$$

Table 12 represents the regression output for extended human capital mode, with individual and job-related characteristics. From the table, total years of education received is still statically significant for male and female workers, with an additional year of education adding 9% and 12% to hourly wage rate of men and women respectively. However, in this model, labor market experience is statistically insignificant for female working class.

Moving to individual level characteristics, being married increases the hourly wage rate of male workers by 6% while it is statistically insignificant for female workers. Implying that being married or not, it doesn't affect the remuneration of women. Furthermore, having a child increases the hourly wages of male workers by 15% while having a child increases the female hourly wage by 3% merely. The intersectional variable, *nation*, which measures if the worker is national of Czech Republic or not, is statistically insignificant for both the gender.

Job related characteristics concretize the presence of occupational segregation in Czech Republic. Working in female dominated industries, reduces the hourly wage rate of female workers by 6% and that of the male workers by 20%. This signifies that female are

concentrated in low pay jobs, as noted by Jurajda in 1999 itself (Jurajda 2003). Variable numberE supports the notion that working in a large organization benefit women. If female workers were working in organization which had more than 50 employees, there wages were higher by 16% than those female workers working in smaller organization.

Table 12. Extended Human Capital Model, 2017		
Variable	Male	Female
Eduyears	0.097*** (0.007)	0.119*** (0.006)
Exp	0.000 (0.000)	0.005*** (0.000)
Bachelor	-0.113*** (0.04)	-0.155*** (0.038)
Hours	-0.005*** (0.001)	-0.004** (0.001)
Marriage	0.071*** (0.017)	0.006 (0.016)
Fwork	-0.197*** (0.032)	-0.060*** (0.017)
Manuf	-0.017 (0.015)	-0.050*** (0.018)
NumberE	0.121*** (0.014)	0.143*** (0.014)
Child	0.145*** (0.015)	0.033** (0.014)
Nation	-0.044 (0.045)	0.062 (0.049)
_cons	3.902*** (0.116)	3.194*** (0.127)
Observations	3544	3075
R-squared	0.2481	0.2538

Source: EU-SILC 2017, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses.

3.3.3. GLOBALIZATION MODEL

In the final model, variables focusing on globalization aspect will be included. In this section, three models will be considered, the first model will focus on impact of FDI inflows along with the extended human capital model. While second model will introduce trade effects along with extended human capital model. In the third model, control variable for each sector, identified for the year 2017, will be included. A combination of FDI inflows and trade is avoided due to their immensely high correlation with each other. Combination of sector affects and macro variables will also not be included in a model as globalization macro variables are divided between the population on the basis of sector. Hence, they are highly correlated to each other.

$$\ln Hwage_m = \beta_0 + eduyears_m \beta_{1m} + exp_m \beta_{2m} + bachelor_m \beta_{3m} + hours_m \beta_{4m} + marriage_m \beta_{5m} + Fwork_m \beta_{6m} + manif_m \beta_{7m} + numberE_m \beta_{8m} + child_m \beta_{9m} + nation_m \beta_{10m} + lngdp_m \beta_{11m} + intrade_m \beta_{12m} + lnfdi_m \beta_{12m} + \epsilon_m \quad (19)$$

$$\ln Hwage_f = \beta_0 + eduyears_f \beta_{1f} + exp_f \beta_{2f} + bachelor_f \beta_{3f} + hours_f \beta_{4f} + marriage_f \beta_{5f} + Fwork_f \beta_{6f} + manif_f \beta_{7f} + numberE_f \beta_{8f} + child_f \beta_{9f} + nation_f \beta_{10f} + lngdp_f \beta_{11f} + intrade_f \beta_{12f} + lnfdi_f \beta_{12f} + \epsilon_f \quad (20)$$

Variable	Model 1 (FDI inflows)		Model 2 (Trade)		Model 3 (sector)	
	Male	Female	Male	Female	Male	Female
Eduyears	0.093*** (0.007)	0.119*** (0.006)	0.084*** (0.010)	0.093*** (0.012)	0.093*** (0.007)	0.110*** (0.006)
Exp	0.001** (0.000)	0.005*** (0.000)	0.000 (0.000)	0.004*** (0.001)	0.001* (0.000)	0.005*** (0.000)
Bachelor	-0.104** (0.043)	- 0.150*** (0.038)	-0.009 (0.066)	-0.058 (0.076)	-0.099** (0.042)	- 0.128*** (0.038)

hours	- 0.005*** (0.001)	-0.004** (0.001)	- 0.008*** (0.002)	-0.004 (0.004)	- 0.005*** (0.001)	-0.004** (0.001)
Marriage	0.068*** (0.017)	0.005 (0.016)	0.075*** (0.025)	-0.003 (0.030)	0.069*** (0.017)	0.001 (0.016)
Fwork	-0.030 (0.040)	0.004 (0.028)	0			
Manuf	- 0.151*** (0.024)	- 0.096*** (0.024)	0.357* (0.184)			
numberE	0.122*** (0.013)	0.140*** (0.014)	0.082*** (0.020)	0.117*** (0.028)	0.114*** (0.014)	0.109*** (0.015)
Child	0.145*** (0.015)	0.033** (0.014)	0.151*** (0.022)	0.040 (0.028)	0.142*** (0.015)	0.035** (0.014)
Nation	-0.034 (0.045)	0.063 (0.049)	-0.011 (0.068)	0.108 (0.028)	-0.024 (0.045)	0.045 (0.048)
Lnfdi	0.047*** (0.006)	0.018*** (0.006)				
Lntrade			-0.119** (0.054)	-0.030** (0.012)		
Sector 2					0.125* (0.074)	-0.014 (0.181)
3					0.107*** (0.035)	-0.000 (0.050)
4					0.198*** (0.058)	0.134 (0.094)
5					0.057 (0.062)	-0.067 (0.101)
6					0.125*** (0.040)	0.117 (0.073)
7					0.125*** (0.040)	-0.059 (0.051)
8					0.166***	0.069

					(0.040)	(0.059)
9					0.068 (0.060)	-0.098 (0.060)
10					0.301*** (0.049)	0.252*** (0.076)
11					0.266*** (0.059)	0.233*** (0.060)
12					0.258** (0.102)	0.235*** (0.092)
13					0.182*** (0.051)	0.095 (0.062)
14					0.077* (0.039)	0.111** (0.052)
15					-0.103* (0.052)	-0.052 (0.052)
16					-0.024 (0.056)	0.028 (0.051)
17					-0.057 (0.069)	-0.035 (0.074)
18					-0.176** (0.081)	0.025 (0.072)
_cons	3.409*** (0.136)	2.986*** (0.145)	5.280*** (0.541)	3.812*** (0.312)	3.823*** (0.120)	3.298*** (0.137)
Observations	3544	3075	1531	894	3544	3075
R-squared	0.2578	0.2516	0.2664	0.1888	0.2669	0.2788

Source: EU-SILC 2017, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses.

Table 13 produces the regression output of globalization's three models, model with the control variable for FDI inflows, model with the control variable for trade and model with sectoral control. Out of these three models, explanatory power of the model 3 is the highest

with coefficient of determination for male equation being 0.2669 and for female equation being 0.2788. following is the summary of important variables in all three models.

- FDI inflows: FDI inflows in different sectors in Czech economy in the year 2017, had an overall positive impact on male and female wages. In 2017, with an increase in FDI inflows by 1%, male hourly wages increased by 4.7%. On the other hand, with an increase in FDI inflows by 1%, female wages increased by 1.8%. Furthermore, coefficients of both male and female equations were statistically significant at 1% level of significance. Hence the hypothesis that FDI inflows increase the hourly wages of women in failed to be rejected.
- Child: Having at least one child also affected the earnings of the female workers. In model 1, having at least 1 child, increased the hourly wages of female workers by 3.3% while in model 3, having at least one child increased the female wages by 3.5%.
- Nationality: *nation* variable has been statistically insignificant in all three models of globalization and even in the extended human capital model. One possible explanation is that data set EU-SILC 2017, didn't recorded ample observations from those workers who were not Czech nationals. More than 90% of the observation of the sample were Czech nationals, making the regression output redundant. Still to address the intersectionality dimension, keeping the p-value of the coefficient, in isolation, female workers who were Czech nationals earned 6% more hourly wages than those female workers who were from outside.
- Number of employees: variable *numberE* was statistically significant in all the three globalization models at 1% level of significance. When working in organization where employees are more than 50, women earned 13% more hourly wages in model 1 and 11% more hourly wages in model 3, than those women who were working in small organizations.
- Trade: Amount of trade in the Czech economy has a downcast impact on female wages. As trade in the sector where workers are working increased, the hourly wage rate of male employees fell by 11% while hourly wage rate of female workers fell by 3%. Therefore, hypothesis that trade increases female wages is rejected.

3.3.4. DECOMPOSITION

To decompose the gender wage gap according to Oaxaca Blinder Decomposition, first both male and female average wages will be calculated from wage equations. Both wage equations will be accessed at the mean characteristics. After filling the value of coefficients in the male and female wage equation, we measure the average male hourly wage as 163.3 CZK and average female hourly wage as 126.3 CZK. Results of decomposition are provided in Annexure.

From the average male and female hourly wages, gender wage gap can be calculated as follows:

Average Male Hourly Wage - Average Female Hourly Wage

$$163.3 - 126.3 = 37 \text{ CZK}$$

Table 14. Oaxaca-Blinder Decomposition		
Result		
	Coefficient	Percentage
Endowment Effect	-0.014*** (0.005)	-5.65%
Remuneration Effect	0.271*** (0.010)	105.65%
Source: EU-SILC 2017, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses.		

Table 14. shows the decomposition results of raw gender wage gap of 2017. According to Oaxaca-Blinder Decomposition, endowment effect (education, work experience) explains negative 5.6% of the raw gender wage gap. Interpretation of negative contributions of endowment effect is as following. As total years of education and labor market experience of female workers is more than male workers in 2017, women have more endowment than men. More endowment of female workers, thus, has contributed negatively to gender wage gap and helped reduce gender wage gap. On the contrary, remuneration effect has explained 105% of the gender wage gap, as endowment effect fails to account for it.

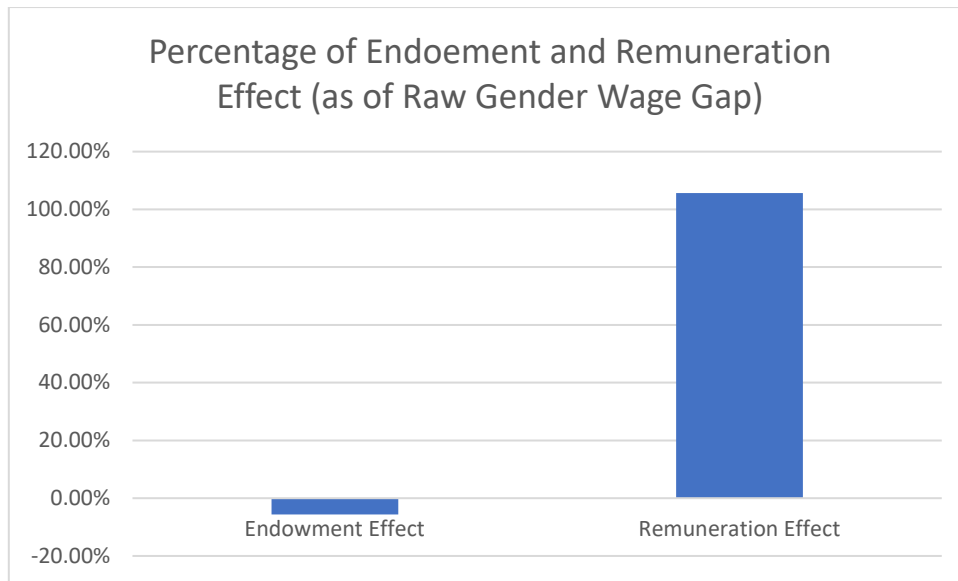


Figure 5. Percentage of Endowment and Remuneration Effect

Source: EU-SILC 2017, Czech Republic. Author's Computations.

3.4. ROBUSTNESS CHECK

As the statistical disagreement related to the calculation of gender wage gap is high (Blau and Kahn 2016), I conducted a thorough robustness check of the results produced in the previous section. The first robustness check is carried out by one way Analysis of Variance (ANOVA) test for both the years. The test compares that dependent variable, *lnHwage*, and independent variable, *gender*, have significant difference between their means or not, by different categories.

H0 Null hypothesis: there is no difference between the mean hourly wages of men and women.

H1 Alternative hypothesis: there is significant difference between the hourly wages of men and women.

Source	Analysis of Variance			F	Prob > F
	SS	df	MS		
Between groups	591.861383	1	591.861383	2433.70	0.0000
Within groups	6129.2213	25203	.243194116		
Total	6721.08268	25204	.266667302		

Bartlett's test for equal variances: $\chi^2(1) = 22.0085$ Prob> $\chi^2 = 0.000$

Figure 6. One Way ANOVA (Source: Microcensus 1996)

Source	Analysis of Variance			F	Prob > F
	SS	df	MS		
Between groups	108.624189	1	108.624189	511.47	0.0000
Within groups	1405.30486	6617	.212377944		
Total	1513.92905	6618	.2287593		

Bartlett's test for equal variances: $\chi^2(1) = 0.7806$ Prob> $\chi^2 = 0.377$

Figure 7. One Way ANOVA (Source: EU-SILC 2017)

Figure 6 figure 7 shows the one-way ANOVA results for the year 1996 and 2017. In year 1996, p value (0.000) for between the group means is less than 1% level of significance. In 2017, p value (0.000) for between the group means is less than 1% level of significance. Therefore, we reject the null hypothesis in both the cases. Hence, there is statistically significant difference between the mean hourly wages of men and women in both years.

Next, I conducted two-way ANOVA test considering two different set of independent variables, *gender* and *edu*. Variable *edu*⁹ represents the highest education attained by a worker in 1996 and 2017. The two-way ANOVA will test three null hypotheses at a single point of time. In both the years, 9 different level od educations were identified from the survey sheets of the respective datasets.

⁹ See Annexure , for different education levels identified in 1996 and 2017

H0a Null hypothesis a: there is no difference between the mean hourly wage of men and women.

H0b Null hypothesis b: there is no difference between the mean hourly wages at different education levels.

H0c Null hypothesis c: there are no simultaneous (interaction) effects of gender and highest level of education attained.

H1 Alternative hypothesis: there is significant difference in all of these.

	Number of obs =	25,205	R-squared =	0.2460	
	Root MSE =	.448567	Adj R-squared =	0.2455	

Source	Partial SS	df	MS	F	Prob>F
Model	1653.5463	19	87.028753	432.52	0.0000
gender	3.9317963	1	3.9317963	19.54	0.0000
edu	1018.2555	9	113.1395	562.29	0.0000
gender#edu	11.859853	9	1.3177615	6.55	0.0000
Residual	5067.5364	25,185	.20121248		
Total	6721.0827	25,204	.2666673		

Figure 8. Two-way ANOVA test 1996. (Source: Microcensus 1996)

	Number of obs =	6,619	R-squared =	0.2721	
	Root MSE =	.408568	Adj R-squared =	0.2703	
Source	Partial SS	df	MS	F	Prob>F
Model	411.87067	16	25.741917	154.21	0.0000
gender	7.4807705	1	7.4807705	44.81	0.0000
edu	300.56119	8	37.570149	225.07	0.0000
gender#edu	4.5700618	7	.65286598	3.91	0.0003
Residual	1102.0584	6,602	.16692796		
Total	1513.929	6,618	.2287593		

Figure 9. two-way ANOVA test 2017. (Source: EU-SILC 2017)

Figure 8 and Figure 9 show the results of two-way ANOVA test for 1996 and 2017 respectively. In 1996, *gender*, *edu* and interaction of *gender and edu*, all three have a p value of 0.000, hence we reject the null hypothesis at 1% level of significance. Therefore, there is a statistically significant difference between the hourly mean wages of men and women, and between different education levels. Another interesting insight is that interaction between gender and highest education attained also has different means for different categories. This implies that a woman who has a bachelor's degree has a different hourly mean wage than a man who has a bachelor's degree. This explains the potential discrimination present in the market in 1996. Similarly, in 2017, all three variables, *gender*, *edu* and interaction of *gender and edu*, have p values less than 0.01, therefore, differences in the mean of different groups is statistically significant in 2017 also.

Globalization model 1996

Further, to check the robustness of the results, I included the FDI inflows data from 1998¹⁰, to compensate for missing data of 1996. In the year 1996, data on trade and variable was not available by sectors, which rendered the results biased. Hence, data on FDI inflows by sector have been included in the regression model. Table 15, represents the results from regression analysis. With an increase in FDI inflows by 1%, hourly wages of men increased by 1.2% while, average hourly wages of women increased by 0.3%. This culminates that gains from

¹⁰ See, Annexure , for microdata on FDI inflows that have been used.

globalization and FDI were reaped by men more than women. Explanation of this was given by True (2003). As transition brought a sudden cry of unemployment, women were given incentive to leave market, to create additional jobs for men. All new jobs were given to men as they were supposed to earn for the household, while role of women was minimized to housemakers. Further, the sectors where women were majorly employed, received the least FDI inflows in 1998.

Table 15. Regression Output globalization Model, with FDI inflows data of 1998. (Microcensus 1996)		
Variable	Male	Female
eduyears	0.035***	0.052***
Exp	0.001***	0.010***
bachelor	0.250***	0.242***
marriage	0.252***	0.006***
hours	-0.008***	-0.005***
prague	0.156***	0.178***
lnfdi98	0.012***	0.003***
_cons	3.608***	3.027***
Observation	14187	11018
R-squared	0.2433	0.2337

Source: Microcensus 1996, CNB 1998, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level.

CHAPTER 4

DISCUSSION

4.1. DISCUSSION

Czech Republic has a salient legacy from the endeavors of communism. The legacy is perfectly manifested in the analysis of the year 1996. During communism, state emphasized on the emancipation of the traditional roles that women played. And to materialize the mission, state promoted equal work and attentively educated the women folks. Although success of the drive to emancipate women is controversial, the role it has played to make women of Czech Republic more educated and self-aware, is laudable.

In the year 1996. Average years of education received by women was more comparatively to that of the men. female workers had on an average, 12 years of education, while male workers had 11 years of education. In the domain of labor market experience, male and female workers had almost similar experiences, 20.5 years. The pattern itself establishes a strong base and explains why the contributions of endowment effect were negative. To culminate, in 1996, female workers in Czech Republic were better educated than male workers and has almost similar labor market experience.

Similar pattern is observed in the year 2017. Female workers had more education in years than men, although the difference is not significant. However, in 2017, female workers were on an average, more experienced than male workers by a year. This further culminates to the premises, that in both the years, women had an advantage in endowment effect.

The behavior, that a group has advantage in endowment effect, but still is being remunerated less, when compared to another group, raises consequential inquires. Firstly, it links to the *returns to endowment* that women of Czech Republic were witnessing. The possible explanation notes that women in Czech Republic were being paid differently for equal endowment characteristics, when compared to men. From table 16, it can be observed that in 1996, an additional year of education increased the hourly wages of female workers by 5.5%, while it increased hourly wage of male workers by 3%. Likewise, an additional year of market experience increased hourly wage of female workers by 1%, compared to 0.1% of male workers.

Table 16. Model 1 from 1996 and 2017. A Comparison				
	Globalization Model 1, 1996		Globalization Model 1, 2017	
Variables	Male	Female	Male	Female

Eduyears	0.035*** (0.001)	0.053*** (0.001)	0.093*** (0.007)	0.119*** (0.006)
Exp	0.001*** (0.000)	0.010*** (0.000)	0.001** (0.000)	0.005*** (0.000)
Bachelor	0.263*** (0.014)	0.245*** (0.016)	-0.104** (0.043)	-0.150*** (0.038)
Hours	-0.008*** (0.000)	-0.005*** (0.000)	-0.005*** (0.001)	-0.004** (0.001)
Marriage	0.250*** (0.009)	0.005 (0.013)	0.068*** (0.017)	0.005 (0.016)
Fwork	-0.154*** (0.017)	-0.041*** (0.011)	-0.030 (0.040)	0.004 (0.028)
Manuf	0.028*** (0.007)	0.012 (0.010)	-0.151*** (0.024)	-0.096*** (0.024)
Prague	0.178*** (0.016)	0.200*** (0.019)		
Lngdp	-0.043*** (0.011)	-0.043*** (0.014)		
NumberE			0.122*** (0.013)	0.140*** (0.014)
Child			0.145*** (0.015)	0.033** (0.014)
Nation			-0.034 (0.045)	0.063 (0.049)
Lnfdi			0.047*** (0.006)	0.018*** (0.006)

Source: Microcensus 1996, EU-SILC 2017, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses.

Similar pattern is occurring in 2017. An additional year of education and market experience is increasing female hourly wages by 12% and 0.5%, as compared to 9% and 0.1% in male

workers respectively. *To culminate, endowment effect contributed to its finest, to reduce gender wage gap in Czech Republic, in 1996 as well as in 2017.*

Secondly, *role of individual and job level characteristics* is important explanation of why female wages are still less than male wages, given that women have better endowment effects and better returns to endowment. Individual level characteristics like being married helped male workers earn more in both the years. If a male worker was married in 1996, he was making 25% more than the unmarried male workers. But if a female worker was married in 1996, she was earning merely 0.5% more than unmarried female workers. Similarly, in 2017 also, a married male worker was paid more than a married female worker. Having a child also bagged male workers 14% more hourly wages than those male workers who had no child, in 2017. However, female workers with a child only earned 3% more than the other group in the same year. This culminates that individual level characteristics were paid disproportionately in favor of male workers.

Job level characteristics like working in a large organization of more than 50 employees benefited women more than men. In 2017, if a female worker was working in a large organization, her hourly wage was 14% more, comparative to 12% more of male workers. On the contrast, big blow to female workers was given by occupation segregation .in both the years, women were dominating those sectors, which were low paid and had received least FDI inflows. Employment of women in education and healthcare sector in 1996 and 2017 was 22% and 27% respectively. Women's workforce in these sectors have increased over the period of time. However, these sectors also had the least FDI inflows in both the years. In 1996, FDI inflows in education and healthcare was 205 and 16040 (thousands USD)¹¹. In 2017, FDI inflows in education and healthcare sector was 913 and 5088 (million CZK). This meant that those sectors which received the least investment, had more women employed and were paid less as compared to other sectors. This culminates that *women were confined to those occupations which paid less and received less investment*. Further, FDI inflows, in 2017, increased the hourly wage of male workers by 5%, as compared to 2% for the female workers.

Therefore, to explain why women, irrespective of having more endowment and returns to endowment, were still being paid less, following three conclusions are forwarded:

¹¹ As data on FDI inflows was not available for the year 1996, data from 1998 is utilized as a proxy.

- First, Czech Market remunerated individual level characteristics of workers like having a child or being married, differently, and mostly in favor of male workers in both the years.
- Second, women were confined to those sectors which were low-paid sectors. This proves the existence of occupation segregation in Czech Republic and is consistent with the results of Jurajda (2003).
- Third, gains from the globalization are disproportionately distributed between the gender, with male workers gaining the most.

4.1.1. GLOBALIZATION AND FEMALE WAGES:

Role that globalization has played in of much importance to this study. Has globalization led to positive gains for the women? In 1996, Gross Domestic Product at current prices was used as a proxy for globalization as data on FDI inflows was not available. For readers note, GDP and FDIs are highly correlated to each other and can be used in place for each other. GDP was distributed along the microdata with respect to the region where worker was working. Analysis showed that GDP in 1996, contributed negatively to the wages of both the genders. Increase in GDP by 1%, decreased the hourly wage of both genders by 4%.

However, it could be argued that in 1996, Czech Republic was still adjusting to the new age of capitalism and liberalism, hence labor market was in turbulence. Therefore, the true potential benefits of globalization could not be reaped. Further, it was comparatively, the beginning of globalization, hence economy was still familiarizing with it. Another caveat to be added here is, the measurements used to measure globalization in 1996 have potential to be biased. GDP at current prices was distributed according to the region, which is not always a suitable way to combine micro and macro data. But because availability of data for the year was limited, GDP was used as a last resort.

However, globalization has reflected its potential impact in the year 2017, as expected. FDI inflows yielded positive impact on hourly wages of female workers. With an increase in FDI inflows by 1%, hourly wage of female workers increased by 2% approximately. However, gains of male workers were comparatively higher. This is explained by segregation of women into low paying sectors. Impact of trade on female wages is difficult to account for. With an increase in trade by 1%, hourly wage of female workers decreased by 3% and hourly wages

of male workers decreased by 11%. Although, trade theory predicts this behavior, trade can initiate a decrease in female wages by job segregation, low payments, budgetary cuts in social schemes and decrease in bargaining power of women, a concrete conclusion from the results is difficult. A caveat here is that, data on trade for different sectors in 2017 was highly skewed, with data for multiple sectors missing. This renders the analysis biased. But, as per the results of regression, increasing trade negatively affected female wages in 2017.

4.1.2. GENDER WAGE GAP:

Variables	1996		2017	
	Coefficient	Percentage	Coefficient	Percentage
Endowment Effect	-0.020*** (0.002)	-6.65%	-0.014*** (0.005)	-5.65%
Remuneration Effect	0.329*** (0.005)	106.60%	0.271*** (0.010)	105.65%
Raw Wage Gap	0.3089	100%	0.2570	100%

Source: Microcensus 1996, EU-SILC 2017, Czech Republic. Author's Computations. Note: * Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level. Standard Errors are given in parentheses.

Table 17 compares the result of gender wage gap Oaxaca-Blinder decomposition. In the year 1996, endowment effect contribution to the explanation of raw gender wage gap was negative. This explains that endowments of female workers, rather than contributing an increasing factor to gender wage gap, contributed a decreasing factor to it. Female workers in 1996 had better education and work experience, and also had better returns to endowment. Therefore, endowment effect is negative.

Likewise, for the year 2017 as well, endowment effect's contribution to raw gender wage gap is negative, delineating that endowment and return to endowment in 2017 was higher for

female workers than male workers. Hence, endowment effect contributed towards reduction of gender wage gap.

A large part of gender wage gap in Czech Republic is explained by remuneration effect or unexplained part. Unexplained part here refers to the segment which is not explained by differences in human capital and other individual characteristics. Therefore, answerability for remuneration effect is paramount. A major chunk of remuneration effect is explained by occupation segregation in Czech Republic. The results are similar to Redmond and McGuinness (2019), who notes that unexplained part of the Eastern Europe countries account for 100% of the gender wage gap. Even during the communism, gender wage gap was chiefly due to segregation of women folks into low paid jobs. Jurajda (2003) noted that even in 2000, occupation segregation explained at least one third of the raw gender wage gap. Even in 2017, the pattern hasn't changed. Women folks are still concentrated majorly in few sectors, and these sectors receive the lowest FDI inflows as well. Therefore, gender wage gap is high in Czech Republic. High remuneration effect or unexplained part could also link to possibility of employer discrimination when remunerating different genders. But accountability for this explanation is difficult as high remuneration effect also reflects the absence of various control variables.

4.2. CONCLUSION

The present research was motivated with an intention to intensify the understanding on how globalization has affected female wages and gender wage differentials in Czech Republic. Before 1989, women in Czech Republic were equated in the work equation alongside men. State communism focused on full employment, and provided jobs to all men and women, irrespective of discrimination. Wages were decided by the state after considering industry, sector, type of work, education and experience of the worker. Gender was excluded from the wage designing part (Jurajda 2000). Although this restricted gender wage differences, there was still presence of gender wage gap due to occupation segregation of women into low paying jobs (Jackman and Rutkowski 1994, Jurajda 2003).

After the fall of communism in Czech Republic, a wave of unemployment swept across the nation. In order to provide jobs, chiefly to male workers, Czech Republic introduced different incentives such as early retirement for women, maternal benefits etc. which aimed to create job vacancies by incentivizing women to leave work. Women were minimalized to household

chores and those who were employed, were confined to low paying sectors. This was the first indirect blow that globalization inflicted upon women in Czech Republic. Further, globalization opened new avenues for discrimination against women as investments and trade started to proliferate. Investment was expected to reap more benefits for male workers than female workers, on account that sectors which were female dominated, received lowest FDIs. Trade was expected to confine women to continue work in low paying jobs by exploiting their naiveness.

This study tests the impact of investment and trade, as proxies for globalization, on female wages and gender wage gap. Analysis was spread over a period of 21 years, first year being 1996, which reflected beginning of globalization. Second year was 2017, which manifested the current peak of globalization. Besides his, another important point of investigation was to understand how different factors which influenced female wages, have locomoted over the period of 21 years. To understand the second objective, different individual level and job level characteristics were included in the analysis. For the analysis, two different datasets were used, Microcensus 1996 and European Union Statistics on Income and Living Conditions 2017 (EU-SILC).

Before providing the results, study faced a few limitations. Firstly, datasets used for not the years were not homogenous in terms of available variables. For example, an important variable, which measures whether a worker lives in Prague or not, was only available for 1996. This contained the analysis. Secondly, paramount variables like work experience and years of education were not measured directly by both the datasets. therefore, to calculate the work experience, potential work experience formula was used (Mysíková 2012). Potential experience is measured as age – total years of education – 6. However, total years of education was also unavailable, but highest education attained measure was provided. To translate highest education attained, sources from Ministry of Foreign Affairs were used. Thirdly, the analysis relied on combination of microdata and microdata. However, microdata for the year 1996, that exclusively measured FDI inflows and trade sector-wise or region-wise, was unavailable. Therefore, as a trade-off, data on GDP at current price region-wise, was used for the analysis. GDP was used as a proxy for FDI inflows, as both are highly correlated with each other. As FDI inflow increases, so does GDP at current price. In the robustness check, data on FDI inflows sector-wise for 1998, was used for the year 1996.

The study provided following results:

- Differences in Individual characteristics present a powerful explanation for gender wage gap and female wages in general. Increase in education by one year, increase hourly wage of female worker by 5% in 1996 and 11% in 2017. Contrasted with male hourly wages when, increase in education with one year, increased their wages by 3% in 1996 and 9% in 2017. Being married or having a child was associated with higher wages for male workers in both the years as compared to female workers. This links to the notion that a woman who is raising family is associated with low productivity as compared to colleagues.
- Differences in job related characteristics also held a strong explanatory power over gender wage gap. an additional year of experience increased the wages of female workers by 1% in 1996 and 0.5% in 2017. Comparatively, an additional year of experience increase male hourly wage by 0.1% in both the years. *This culminates to a strong conclusion, human capital part or endowment effect, in both years was stronger for women. Women earned more returns to endowment in both the years.*
- Analysis showed that GDP in 1996, contributed negatively to the wages of both the genders. Increase in GDP by 1%, decreased the hourly wage of both genders by 4%. If we replaced the GDP by FDI inflows of 1998, then an increase in FDI inflows by 1% increased female wages by 0.3% and male wages by 1%. Therefore, in 1996, male workers gained more from globalization.
- In the year 2017, FDI inflows were positively linked with the hourly wages of men and women. With an increase in FDI by 1%, wages of women increased by 1.7% and wages of men increased by 4.5%. Therefore, in both the years, globalization helped male workers more than female workers.
- Trade decreased the wages of both male and female workers. In 2017, with an increase in trade by 1%, wages of male workers declined by 11% and that of female workers by 3%.
- Gender wage gap in 1997 was 16.9 CZK and in 2017, it was 40.8 CZK. In both the years, contribution of endowment effect or explained part to explain gender wage gap was negative. Implying that endowment effect, rather than increasing gender wage gap, reduced the gender wage gap. Moreover, in both the years, women had advantage in education and work experience. Unexplained part or remuneration effect

in both years was high. Which links to two things, absence of important variables in the study and presence of discrimination against women in the market.

- Sectoral controls in both the years, provide a strong support for the notion that women in Czech Republic were concentrated in few sectors. These few sectors were mainly education, healthcare and wholesale and retail. Therefore, occupation segregation still explains a prominent part of gender wage gap.

Finally, considering the results, the study has opened new avenues for further research, with improved methodology and improved datasets. Although, open to criticism, this study has strong policy implications for Czech Republic. Given that endowment factors of women are better than men, but still women are receiving less wages comparatively, is a serious concern. A look into occupation segregation and policies focusing on inception of women in diverse sectors could bring a certain fall in gender wage gap. further, investment has power to improve the lives of all the strata of the society in Czech Republic, provided that investment is absorbed by all the sectors and not only few. Policies aiming to increase investment in those sectors where women are majority employed will reduce the gender wage gap. Further, this research has strong potential to be explored in future. Given that remuneration effect in Czech Republic is high, presence of discrimination against women is sensed. Future research could be conducted by including the elements from intersectionality research and looking at the discrimination against women in Czech Republic from a holistic approach.

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DATA SOURCES

Český statistický úřad / Czech Statistical Office

Czech National Bank's Database

World Bank Database

Organization of Economic Cooperation Database

ANNEXURE

ANNEX 1 – SECTORS IN CZECH REPUBLIC IN 1996 (AS PER MICROCENSUS 1996)	
Sector No.	Sector Name
1	Agriculture, forestry and fishing
2	Mining and Quarrying
3	Manufacturing
4	Electricity, gas, heat and air conditioning generation and distribution
5	Water supply; wastewater-related activities
6	Construction
7	Wholesale and retail trade; repair and maintenance of motor vehicles
8	Accommodation, catering and hospitality
9	Transport and storage
10	Postal and Telecommunication
11	Money and insurance
12	Real estate
13	Professional, scientific and technical activities
14	Public administration, defense and social security
15	Education
16	Health and social care
17	Cultural, entertainment and recreational activities

ANNEX 2 – REGIONS IN CZECH REPUBLIC, 1996 (AS PER MICROCENSUS 1996)	
Region No.	Region Name
1	Prague
2	Central Bohemian Region
3	South Bohemian Region
4	West Bohemian Region
5	North Bohemian Region
6	East Bohemian Region
7	South Moravia Region
8	North Moravia Region

ANNEX 3 – SECTORS IN CZECH REPUBLIC IN 2017 (AS PER EU-SILC 2017)

Sector No.	Sector Name
1	Agriculture, forestry and fishing
2	Mining and Quarrying
3	Manufacturing
4	Electricity, gas, heat and air conditioning generation and distribution
5	Water supply; wastewater-related activities
6	Construction
7	Wholesale and retail trade; repair and maintenance of motor vehicles
8	Transport and storage
9	Accommodation, catering and hospitality
10	Information and communication
11	Finance and insurance
12	Real estate
13	Professional, scientific and technical activities
14	Administrative support services, public administration, defence and social security
15	Education
16	Health and social care
17	Cultural, entertainment and recreational activities
18	Others

ANNEX 4 – LEVELS OF EDUCATION

No.	Education levels in 1996	No.	Education levels in 2017
1	ukončené základní	0	předškolní děti, neukončený 1. stupeň ZŠ
2	vyučení - střední odborné učiliště bez maturity	1	1 první stupeň ZŠ
3	střední odborné (SO) - střední škola bez maturity	2	2 druhý stupeň ZŠ
4	vyučení s maturitou - střední odborné učiliště ukončené maturitou	3	3 vyučení, nižší střední (bez maturity)
5	úplné střední všeobecné (ÚSV) - gymnázium ukončené maturitou	4	4 úplné střední s maturitou, nástavby a konzervatoře s matur., pomaturitní studium
6	úplné střední odborné (ÚSO) - střední odborná škola s maturitou	5	5 konzervatoře ukončené absolutoriem
7	vyšší vzdělání - vyšší odborné školy, bakalářské studium na VŠ	6	6 vyšší odborné
8	Vysokoškolské	7	7 vysokoškolské bakalářské
9	vědecká výchova - postgraduální, doktorandské studium	8	8 vysokoškolské magisterské či inženýrské
0	děti do 15 let, neukončené základné vzdělání	9	9 doktorské

ANNEX 5: MACRODATA

**FOR 1996, GDP AND GVA
AT CURRENT PRICES.
(SOURCE: CZECH
STATISTICAL OFFICE)
FIGURES IN CZK
MILLION.**

Region No.	GDP	GVA
1	368954	334829
2	179273	162692
3	106672	96806
4	145365	131921
5	205996	186943
6	245984	223944
7	277682	260415
8	299329	271645

**ANNEX 6: FDI INFLOW
DATA FROM 1998, USED
FOR 1996**

Sector No,	FDI inflows in 1998 (USD thousand)
1	22744
2	126601
3	6579185
4	609062
5	33974
6	145211
7	2490234
8	106692
9	10078
10	1222911
11	2121339
12	380904
13	408469
14	1026
15	205
16	16040
17	51735

**AANEX 7. MACRODATA USED
FOR 2017, FIGURES IN CZK
MILLION. (SOURCE: CZSO AND
CNB)**

SECTOR NO.	GDP	FDI
1	261418	7178.4
2	64721	14327.6
3	4519251	968862. 9
4	372142	101083
5	124003	22092.8
6	800278	54333.2
7	1035026	293586
8	680432	33026.5
9	208086	15210.4
10	461989	184934. 8
11	350893	987712. 1
12	738654	313433. 1
13	550464	224174.

		7
14	654181	39141.8
15	246534	913
16	327475	5088.9
17	111908	4609.5
18	83725	4581.1