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GENDER SEGREGATION IN THE EU LABOR MARKET

Dissertation Thesis

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UNIVERSITY OF ECONOMICS IN BRATISLAVA
FACULTY OF NATIONAL ECONOMY

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Supervisor: doc. Ing. Peter Sika, PhD.

2023

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Declaration of Honour

I hereby solemnly declare that this thesis represents my own work and all sources used are listed in Bibliography.

Bratislava, date

.....

Jakub Harman

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ABSTRACT

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Gender segregation narrows life, educational and employment opportunities, leads to unequal salaries and reinforces gender stereotypes. This fact motivates us to deal with the problem of gender segregation and shed a light on causes of it. This dissertation thesis aims to examine, scientifically process and quantify the aspects of gender segregation in the labor market in the European countries in terms of non-financial and financial attributes.

Firstly, in order to achieve this goal, we identify the male and female-dominated sectors and occupations by computing the shares and concentrations of employees broken down by gender and calculate three different segregation indexes that determine the degree of segregation in the labor market using Labor Force Survey 2020 dataset. Our results show that horizontal and vertical segregation with a heterogeneous tendency over examined period is evident in all European countries studied. Furthermore, we found that horizontal segregation is positively correlated with female labor participation rate across Europe and negatively with vertical, however, in case of vertical segregation the correlation proved to be weak.

Secondly, we use Structure of Earnings Survey 2018 and EU Structure of Income and Living Conditions 2020 datasets to identify the extent of remuneration inequality. We employ econometrical approach to estimate the unadjusted and adjusted gender pay gap controlling for personal and labor market characteristics. More advanced method of Oaxaca-Blinder decomposition with and without Heckman sample correction is employed to decompose the estimated gender pay gap to explained and unexplained part. We find that women earn 10,8 – 11,7 % on average less than men although the gap varies from 0,6 to 24,6 % depending on the dataset used. Also, share of women in low/high skilled occupations is negatively/positively correlated with unadjusted gender pay gap. There also proved to be significant wage differences by education levels and age groups as well as sectors and occupations mostly favouring men. Adjusting the gender pay gap for personal characteristics showed that women have on average better characteristics than man. Moreover, adjusting for labor market characteristics proved that strong segregation is present widening the gender pay gap. These results are supported by the Heckman sample corrected estimates which incorporate the probability of being employed into the estimation procedure.

Oaxaca-Blinder decomposition showed that explained part of the gender pay gap is very low in comparison with unexplained part and showing negative values suggesting that women would earn higher wages if it was not for gender segregation. Decomposition also showed that men have higher wage premium over their life-cycle and sectoral segregation also supports their higher wages. On the contrary, occupational distribution seem to undermine the gender pay gap leading to more equal wage distribution. Results are supported also in sample corrected dataset.

Keywords: Gender segregation, Labor market, Gender pay gap, Inequality, Segregation indexes, Oaxaca-Blinder decomposition, Heckman sample correction

ABSTRAKT

HARMAN, Jakub: *Rodová segregácia na trhu práce v krajinách EÚ*. [Dizertačná práca]. – Ekonomická univerzita v Bratislave. Národohospodárska fakulta; Katedra sociálneho rozvoja a práce. – Vedúci práce: doc. Ing. Peter Sika, PhD. – Bratislava: NHF EU, 2023, 204 strán.

Rodová segregácia zužuje životné, vzdelávacie a pracovné príležitosti, vedie k nerovnakým platom a posilňuje rodové stereotypy. Táto skutočnosť nás motivuje zaoberať sa problémom rodovej segregácie a objasniť jej príčiny. Cieľom tejto dizertačnej práce je preskúmať, vedecky spracovať a kvantifikovať aspekty rodovej segregácie na trhu práce v európskych krajinách z hľadiska nefinančných a finančných atribútov.

Aby sme dosiahli tento cieľ, identifikujeme sektory a povolania, v ktorých dominujú muži a ženy, vypočítaním podielov a koncentrácií zamestnancov rozdelených podľa pohlavia a vypočítame tri rôzne indexy segregácie, ktoré určujú mieru segregácie na trhu práce pomocou Labor Force Survey 2020 datasetu. Naše výsledky ukazujú, že horizontálna a vertikálna segregácia s heterogénnou tendenciou počas skúmaného obdobia je evidentná vo všetkých skúmaných európskych krajinách. Ďalej sme zistili, že horizontálna segregácia pozitívne koreluje s mierou účasti žien na trhu práce v Európe a negatívne s vertikálnou, avšak v prípade vertikálnej segregácie sa korelácia ukázala ako slabá.

Na identifikáciu rozsahu nerovnosti v odmeňovaní používame datasety Structure of Earnings Survey 2018 a EU Structure of Income and Living Conditions 2020. Na odhad neupraveného a upraveného rodového mzdového rozdielu používame ekonometrický prístup, ktorý kontroluje osobnostné charakteristiky a charakteristiky trhu práce. Na rozloženie odhadovaného rodového mzdového rozdielu na vysvetlenú a nevysvetlenú časť sa používa pokročilejšia Oaxaca-Blinder dekompozičná metóda s Heckmanovou korekciou vzorky a bez nej. Zistili sme, že ženy zarábajú v priemere o 10,8 – 11,7 % menej ako muži, hoci rozdiel sa pohybuje od 0,6 do 24,6 % v závislosti od použitého datasetu. Taktiež podiel žien v nízko/vysoko kvalifikovaných povolaniach negatívne/pozitívne koreluje s neupraveným rodovým mzdovým rozdielom. Preukázali sa tiež výrazné rozdiely v mzdách podľa úrovne vzdelania a vekových skupín, ako aj odvetví a povolání, ktoré väčšinou uprednostňujú mužov. Úprava rodového mzdového rozdielu podľa osobných charakteristík ukázala, že ženy majú v priemere lepšie merateľné vlastnosti ako muži. Okrem toho úprava rodového mzdového rozdielu podľa charakteristík trhu práce ukázala, že existuje silná segregácia, ktorá rozširuje nerovnosti v odmeňovaní. Tieto výsledky sú podporené Heckmanovou korekciou vzorky, ktorá zahŕňa pravdepodobnosť toho či je jednotlivец zamestnaný alebo nie.

Oaxaca-Blinder dekompozícia ukázala, že vysvetlená časť rodového rozdielu v odmeňovaní je veľmi nízka v porovnaní s nevysvetlenou časťou a ukazuje negatívne hodnoty, ktoré naznačujú, že ženy by zarábali vyššie mzdy, nebyť rodovej segregácie. Dekompozícia tiež ukázala, že muži majú počas svojho životného cyklu vyššiu mzdovú prémie a ich vyššie mzdy podporuje aj sektorová segregácia. Naopak, zdá sa, že profesijná segregácia podkopáva rozdiely v odmeňovaní žien a mužov, čo vedie k rovnomernejšiemu rozdeleniu miezd. Výsledky sú podporované aj v prípade Heckmanovej korekcie datasetu.

Kľúčové slová: Rodová segregácia, Trh práce, Rodový mzdový rozdiel, Nerovnosť, Segregačné indexy, Oaxaca-Blinder dekompozícia, Heckmanova korekcia

Contents

Introduction	13
1 Theoretical background and literature review	15
1.1 Fundamental terms related to gender segregation	15
1.2 Legislation in the field of gender equality in Slovakia and in the world	24
1.3 Discrimination on the labor market	35
1.4 Gender segregation in the labor market	40
1.5 Literature Review	50
2 Aim of the dissertation thesis	56
3 Methodology and methods of investigation	61
4 Results	75
4.1 Horizontal and vertical segregation	75
4.2 Indexes of gender segregation	90
4.3 Unadjusted Gender Pay Gap	103
4.4 Adjusted gender pay gap	124
4.5 Oaxaca-Blinder decomposition	133
5 Discussion	153
Conclusion	165
Resumé	169
References	192

List of figures

Figure 1.1: Model of employer preferences	37
Figure 1.2: Distribution of productivity of women and men	39
Figure 1.3: Composition of gender segregation	44
Figure 1.4: Glass ceiling index, 2020.....	46
Figure 1.5: Gender pay gap, unadjusted form, 2019	49
Figure 4.1: FLPR and Indexes of segregation (NACE computed), 2020	96
Figure 4.2: FLPR and Indexes of segregation (ISCO computed), 2020	101
Figure 4.3: Distribution of hourly wages (log), by country, 2018-2020	103
Figure 4.4: Unadjusted Gender Pay Gap (in %), 2018-2020	105
Figure 4.5: Relationship between FLPR and Unadjusted GPG, 2018	107
Figure 4.6: Relationship between Women in low-skilled occup. and Unadj. GPG, 2018.....	108
Figure 4.7: Relationship between Women in high-skilled occup. and Unadj. GPG, 2018....	108
Figure 4.8: Gender Enrolment Ratio (Tertiary), gender parity index, 1972-2019	112
Figure 4.9: Relationship between Gender enrolment ratio and Unadjusted GPG, 2018.....	113
Figure 4.10: Adjusted and Unadjusted GPG, 2018	131
Figure 4.11: Adjusted gender pay gaps (Heckman-corrected vs not corrected), 2020	133
Figure 4.12: Explained and Unexplained parts of the Gender Pay Gap, by Country, 2020 ..	136
Figure 4.13: Decomposition of the explained part of the GPG, by country, 2020	139
Figure 4.14: Decomposition of the unexplained part of the GPG, by country, 2020.....	142
Figure 4.15: Expl. and Unexpl. parts of the GPG (Heckman-corrected), by Country, 2020.	146
Figure 4.16: Decomposition of the Expl. part (Endowm.) of the GPG, by country, 2020	148
Figure 4.17: Decomposition of the Unexpl. part (Coeff.) of the GPG, by country, 2020.....	150

List of Tables

Table 4.1: Horizontal segregation, by sector and country (% of NACE), 2020	77
Table 4.2: Horizontal segregation, by sector and country (% of National Economy), 2020 ...	80
Table 4.3: Vertical segregation, by occupation and country (% of ISCO), 2020	84
Table 4.4: Vertical segregation, by occupation and country (% of National Econ.), 2020	87
Table 4.5: Index of Dissimilarity, NACE computed, 2012-2020	91
Table 4.6: MSS Index, NACE computed, 2012-2020.....	93
Table 4.7: Karmel-MacLachlan Index, NACE computed, 2012-2020	94
Table 4.8: Index of Dissimilarity, ISCO computed, 2012-2020	98
Table 4.9: MSS Index, ISCO computed, 2012-2020	99
Table 4.10: Karmel-Lachlan Index, ISCO computed, 2012-2020	100
Table 4.11: Unadjusted Gender Pay Gap, by education, cross-country, 2018-2020	109
Table 4.12: Unadjusted Gender Pay Gap, by education and country, 2018.....	110
Table 4.13: Unadjusted Gender Pay Gap, by age groups, cross-country, 2018-2020	114
Table 4.14: Unadjusted Gender Pay Gap, by age group and country, 2018	115
Table 4.15: Unadjusted Gender Pay Gap, by sector, cross-country, 2018.....	116
Table 4.16: Unadjusted Gender Pay Gap, by sector and country, 2018.....	120
Table 4.17: Unadjusted Gender Pay Gap, by occupation, 2018-2020	121
Table 4.18: Unadjusted Gender Pay Gap, by occupation and country, 2018	123
Table 4.19: Adjusted Gender Pay Gap, cross-country, 2018-2020.....	124
Table 4.20: Adjusted Gender Pay Gap (Heckman-corrected), cross-country, 2020.....	125
Table 4.21: Adjusted Gender Pay Gap, by country, 2018-2020	129
Table 4.22: Adjusted Gender Pay Gap (Heckman-corrected), by country, 2020	132
Table 4.23: Oaxaca-Blinder decomposition, cross-country, 2018-2020.....	134
Table 4.24: Oaxaca-Blinder decomposition (Heckman-corrected), cross-country, 2020.....	135

Abbreviations

Bc.	Bachelor
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CIHR	Canadian Institutes of Health Research
COVID-19	Coronavirus disease
ECHP	European Community Household Panel
ECOSOC	Economic and Social Council
EIGE	European Institute for Gender Equality
EU	European union
EU-SILC	EU-Structure of Income and Living Conditions
FLPR	Female labor participation rate
GPG	Gender pay gap
ICT	Information and communication technology
ID	Index of Dissimilarity
ILO	International Labor Organization
ISCO	International Standard Classification of Occupations
KM	Karmel-Lachlan
LFS	Labor Force Survey
LGBTQ	Lesbian, Gay, Bisexual, Transgender, Queer
MI SR	Ministry of Interior of the Slovak Republic
MLSaF SR	Ministry of Labor, Social Affairs and Family of the Slovak Republic
MSc.	Master of Science
MSS	Moir and Shelby Smith
NACE	Statistical classification of economic activities in the European Community
OECD	Organisation for Economic Co-operation and Development
PhD.	Philosophiae Doctor
SES	Structure of Earnings Survey
SR	Slovak Republic
STEM	Science, technology, engineering, and mathematics
UN	United Nations
WHO	World Health Organization

Countries list

BE	Belgium	FI	Finland	NO	Norway
BG	Bulgaria	FR	France	PL	Poland
CZ	Czechia	HR	Croatia	PT	Portugal
DE	Germany	HU	Hungary	RO	Romania
DK	Denmark	IT	Italy	SE	Sweden
EE	Estonia	LT	Lithuania	SI	Slovenia
EL	Greece	LV	Latvia	SK	Slovakia
ES	Spain	NL	Netherlands	UK	United Kingdom

Introduction

Despite the high level of development of modern society, inequalities between men and women persist. The countries of the European Union, including Slovakia, struggle above all with inequality on the labor market, which is one of the most serious matters. Even though gender equality is enshrined in European laws, we constantly encounter more and more differences between men and women in various areas of their life, including the ones on the labor market. The problem of gender segregation in the labor market comes to the attention of society mainly thanks to the media, in which this phenomenon in the labor market is becoming an increasingly discussed topic. The main aim of this dissertation is to examine, scientifically process and quantify the aspects of gender segregation in the labor market in the European countries with a closer focus on the Slovak Republic.

Gender segregation in the labor market is mainly characterized by a significantly lower rate of employment of women than men, but also by higher unemployment, especially long-term unemployment. In terms of remuneration, women are also at a disadvantage, as the gender pay gap favours men in almost all sectors and occupations. Similarly, men are at an advantage when it comes to hierarchical representation in management or legislative positions. Moreover, persistent ideas of gender roles and gender stereotypes, which hinder women's professional development, are closely related to this. This inhibiting factor represents simplified, idealized but often unrealistic ideas of masculinity and femininity, patterns that accompany us in various areas of life. The division of the world into male and female is a misconception of the modern world that needs to be minimized and, in the best-case scenario, completely eliminated.

Despite the trend of increasing women's education, they are not adequately rewarded for their efforts. Education is perceived as an effective tool for economic development and advancement of society, but also important for being successful on the labor market, especially for women, or as a tool for social progress and emancipation. However, the problem arises in the fact that the return on investment in education is not the same for men and women, which is subsequently reflected in the wage remuneration on the labor market. However, the problem largely lies in what fields of science women and men study. While men pursue technical and mathematical fields, women tend to study more socially focused disciplines, which are subsequently valued lower on the labor market leading to the emergence of the gender pay gap.

The issue of gender segregation in the labor market is very complex. Therefore, the choice of the topic of this thesis is not random. The main aim of this dissertation is to examine, scientifically process and quantify the aspects of gender segregation in the labor market in the

European countries, but also to raise society's awareness of this issue and the need to solve it on a daily basis.

The thesis is divided into 5 chapters, the first of which deals with the basic terms associated with the topic of gender segregation in the labor market. We consider it necessary to explain the essence of terms such as sex and gender, but also gender roles and stereotypes. The chapter also focuses on important terms in the field of gender equality in the labor market, which especially women encounter on a daily basis, such as Glass ceiling, Sticky floor, Glass escalator or Glass cliff. An important part of this chapter is also an explanation of the legislative provision of gender equality on the labor market at the national as well as international or even worldwide level. The second and third chapters focus on the set goals, hypotheses and methodology used in the work as well as on the explanation of the data used for the research of gender segregation in the labor markets. The fourth chapter provides the results of the empirical analysis, where we looked at horizontal and vertical segregation as well as three indices of gender segregation, with the help of which we identified the extent of gender segregation, both sectoral and occupational, and the amount of change in the labor market needed to eliminate it. The empirical part also focuses on gender inequalities in remuneration by identifying the gender pay gap in an unadjusted form in terms of age, education, sector or occupation and in an adjusted form in several model specifications and sample corrections. The results from this chapter are confronted with knowledge from the scientific literature. The fifth chapter entitled "Discussion" deals with the evaluation of established hypotheses and provides the authors' recommendations for solving the issue of gender segregation in the labor market based on the results of the empirical part of the dissertation. In the Conclusion, we summarize the results of the thesis and confront them with the results of the authors of scientific literature.

1 Theoretical background and literature review

"Gender equality is a goal that will help eradicate poverty and create more equal economies, fairer societies and happier men, women and children."

- Graça Machel, former First Lady of Mozambique and South Africa

The issue of gender equality is receiving more and more attention in scientific research. Thanks to this, ambiguities in individual terms connected with this issue are constantly decreasing. In the introductory part of the dissertation thesis, we will focus on the explanations of important terms that we will subsequently encounter in the work and that are necessary to know for a deeper investigation of the issue.

1.1 Fundamental terms related to gender segregation

The subchapter is devoted to the explanation of basic terms that lead to the clarification of the theoretical foundations of the issue of gender segregation.

Sex

The basis for solving the issue of gender segregation is to know the differences between the terms sex and gender, because these two terms do not have the same meaning. Johnson and Repta (2012)¹ define sex as a biological construct that includes anatomical, physiological, genetic and hormonal variations that occur in different species of beings, not only in humans. It is primarily associated with physical and physiological characteristics including chromosomes, gene expression, hormone levels and functions, and reproductive/sexual anatomy. Sex is usually categorized as woman or man, but there are differences in the biological attributes that define each sex and the way these attributes are expressed (CIHR, 2020)². According to Oakley (1985)³, sex is a concept that refers to biological differences between men and women such as a visible difference in genitalia and a related difference in reproductive function. Sex also represents cultural differences, as it divides social aspects into "masculine"

¹ Johnson, Joy – Repta, Robin. *Sex and Gender: Beyond the Binaries*. 2012. DOI:10.4135/9781452230610.N2

² Canadian Institutes of Health Research. *What is gender? What is sex?*. 2020. [online]. Available at: <<https://cihr-irsc.gc.ca/e/48642.html>>

³ Oakley, Ann. *Sex, gender and society*. Temple Smith. 1985. London. ISBN 978-08-5117-021-3

and "feminine". The assignment of the designation "man" or "woman" takes place on the basis of several identification signs (Jesenková, 2019)⁴:

- chromosomal profile,
- hormonal profile,
- sexual organs and
- secondary sexual characteristics.

Farkašová et al. (2003)⁵ interprets the term gender as something that refers to the biological differences between men and women, refers to the differences between individuals, which are classified into two groups, into two binary categories.

Gender

Gender is currently a very modern concept. While sex is determined biologically, gender is determined culturally. Torgimson and Minson (2005)⁶ define gender as behavioral, cultural or psychological characteristics that are usually associated with one of the sexes. It can also be a feature, phenomenon or trait characteristic of a certain group of people. Gender can be characterized as a social characteristic of femininity and masculinity conditioned by social, historical and cultural conditions (Jesenková, 2019)⁷. According to MLSaF SR (2014)⁸, gender is a concept referring to social differences between men and women, which are socially determined and perceived as natural, historically changeable and have wide variations both within and between cultures. Barátová (2009)⁹ claims that gender refers to individual practice related to socially given, historically developed rules, expectations and positions. Gender refers to those aspects of sex that we perceive as a social, societal and cultural construct. Gender is also considered a multidimensional construct by Johnson and Repta (2012)¹⁰, who claim that gender refers to different roles, responsibilities, limitations and experience provided to

⁴ Jesenková, Adriana. *Rod, rodová rovnosť a rodová spravodlivosť alebo filozoficko-teoretické východiská pre politiku rodovej rovnosti*. 2019. Rodová rovnosť na univerzite: Kontexty a perspektívy. UVPJŠ v Košiciach. Košice. ISBN 978-80-8152-748-7

⁵ Farkašová, Etela – Kiczková, Zuzana - Szapuová, Mariana. *Rodovo-diferencovaný pohľad na človeka/spoločnosť: Rozlíšenie pohlavia a rodu*. Hodnotové aspekty súčasného sveta. Iris. 2003. Bratislava

⁶ Torgimson, Britta - Minson, Christopher. *Sex and gender: what is the difference?*. 2005. Journal of Applied Physiology. 99: 785–787.

⁷ Jesenková, Adriana. *Rod, rodová rovnosť a rodová spravodlivosť alebo filozoficko-teoretické východiská pre politiku rodovej rovnosti*. 2019. Rodová rovnosť na univerzite: Kontexty a perspektívy. UVPJŠ v Košiciach. Košice. ISBN 978-80-8152-748-7

⁸ MLSaF SR. *Rod – gender*. 2014. [online]. Available at: <<https://www.gender.gov.sk/aktivity/temy/zakladne-pojmy/rod-gender/>>

⁹ Barátová, Jana. *Rodové nerovnosti na trhu práce*. Almanach – Aktuálne otázky svetovej ekonomiky a politiky. 2009. Ekonomická univerzita v Bratislave.

¹⁰ Johnson, Joy – Repta, Robin. *Sex and Gender: Beyond the Binaries*. 2012. DOI:10.4135/9781452230610.N2

individuals based on their sex. Nelson (1992)¹¹ argues that gender creates patterns of cultural constructs based on real or perceived differences between men and women. He subsequently defines gender as the connection of non-biological phenomena with the biological differentiation of humans.

Gender roles

A gender role is a set of ideas about how women and men should behave, express themselves, dress, think, within a certain culture and social environment. According to Blackstone (2003)¹², gender roles are based on the different expectations that individuals, groups and societies have of individuals based on their gender and each society's values and beliefs about gender. Gender roles are the result of interactions between individuals and their environment and provide information to individuals about what behaviors are considered appropriate for which sex. Gender roles are defined according to society's beliefs about the differences between the sexes. Lee et al. (2005)¹³ argue that the gender roles we each fulfill are highly individualistic, built on our biological and physical characteristics, appearance and sexuality, life experiences such as childhood, career or education, and history of sexual and romantic interactions. Gibalová¹⁴ defines gender roles as a set of expectations, rules related to the idea of masculinity and femininity. These rules are mostly unwritten and informal, determined by the given society, and define what behavior, thinking, feeling, clothing or form of partner relationships are suitable/inappropriate for women and men. Farkašová et al. (2003)¹⁵ consider gender roles to be one of the social roles maintained by society and confirmed by everyday life, which are shaped by images of "masculinity" and "femininity", which are shaped by the environment and change both historically over time through the evolution of society, but also according to different cultures based on social, cultural and religious influences and traditions.

¹¹ Nelson, Julie. *Gender, Metaphor, and the Definition of Economics*. 1992. Economics and Philosophy. DOI:10.1017/S026626710000050X.

¹² Blackstone, Amy. *Gender Roles and Society*.. Human Ecology: An Encyclopedia of Children, Families, Communities, and Environments. 2003. ISBN I-57607-852-3.

¹³ Lee, Janice. *Gender Roles*. 2005. New York: Nova Biomedical Books. ISBN 1-59454-213-9.

¹⁴ Gibalová, M. *Rod, rodové stereotypy a rodová rovnosť mužov a žien (slovníček najpoužívanejších pojmov)*. Súkromné centrum pedagogicko-psychologického poradenstva a prevencie Košice. [online]. Dostupné na: <http://www.rovesnicivprevencii.sk/rodova_rovnost.pdf>

¹⁵ Farkašová, Etela – Kiczková, Zuzana - Szapuová, Mariana. *Rodovo-diferencovaný pohľad na človeka/spoločnosť: Rozlíšenie pohlavia a rodu*. Hodnotové aspekty súčasného sveta. Bratislava: Iris. 2003.

Gender stereotypes

According to Brozmanová Gregorová and Šolcová (2014)¹⁶, gender stereotypes represent an unrealistic and idealized image of how "ideal men" and "ideal women" should behave. Lukšík (2001)¹⁷ also agrees with this definition, characterizing gender stereotypes as fixed, rigid beliefs about the "appropriate" behavior of men and women and their "appropriate" characteristics and other psychological or social qualities. According to Jesenská (2009)¹⁸, it is a way of perception and an axiological aspect of "typically" male and "typically" female behavior mistakenly considered to be biologically given and immutable, although it is social and therefore learned patterns and models of behavior. Jesenková (2019)¹⁹ considers gender stereotypes to be simplified, idealized (and therefore often unrealistic and unrealizable) images of masculinity and femininity that function as expectations and role models in all areas of life. These images of life paths and roles, patterns of behavior, types of thinking and seeing reality, as well as ways of acting are formed in the process of socialization. Stereotypes have considerable inertia and change only very slowly. According to Bosá (2004)²⁰, one of the main characteristics of gender stereotypes is their dichotomy. Masculinity and femininity are defined as opposites, containing the automatic assumption that all men are exclusively masculine and all women exclusively feminine. Any deviation from the prescribed behavior is considered inappropriate. Doležalová (2009)²¹ claims that the entire society, human expectations and ways of thinking are affected by gender stereotypes. Gender stereotypes are automatically reproduced through social expectations and influence the nature of male and female roles.

Gender discrimination

Gender discrimination refers to any distinction, exclusion or restriction based on socially constructed gender roles and norms that prevents a person from exercising full human

¹⁶ Brozmanová Gregorová, Alžbeta. – Šolcová, Jana. *Rodová problematika v sociálnej práci s rodinou*. Determinanty využívania flexibilizácie práce v SR z pohľadu rodiny a ich implementácia do sociálneho systému. 2014. Ekonomická fakulta UMB. ISBN 978-80-557-0696-2.

¹⁷ Lukšík, Ivan. *Rodové stereotypy*. Zborník z konferencie "Alternatívy zodpovednej sexuálnej výchovy". 2001. Modra. [online]. Dostupné na: < <http://www.kvsbk.sav.sk/wp-content/uploads/upgrade-sex-vychova/luksik.htm> >

¹⁸ Jesenská, Petra. *Prezentovanie rodových rol a stereotypov vo vybraných učebniciach anglického jazyka*. 2009. Fakulta humanitných vied UMB v Banskej Bystrici. ISBN 978-80-8083-746-4.

¹⁹ Jesenková, Adriana. *Rod, rodová rovnosť a rodová spravodlivosť alebo filozoficko-teoretické východiská pre politiku rodovej rovnosti*. 2019. Rodová rovnosť na univerzite: Kontexty a perspektívy. UVPJŠ v Košiciach. Košice. ISBN 978-80-8152-748-7

²⁰ Bosá, Monika. *Úloha školských učebníc v procese rodovej socializácie*. 2004. Prednáška prezentovaná na konferencii Sféry ženy.

²¹ Doležalová, Lucie. *Genderové stereotypy v pedagogické komunikaci v mateřské škole*. 2009. Studia pedagogica 14/1. Brno.

rights (Cottingham et al. 2001)²². Men and women have the right not to be discriminated against at work because of their sex. In addition to earning less than men, women are more likely to face discrimination and harassment at work (UNISON)²³. Wayne (1995)²⁴ says that in the context of the workforce, discrimination can be defined as the giving of an unfair advantage (or disadvantage) to members of a particular group compared to members of another group. Pokharel (2008)²⁵ considers discrimination to be unfavorable treatment of anyone based on gender, race or other biological and non-biological features. She considers discrimination as an obstacle to achieving the goals of equality, development and peace, and at the same time recognizes discrimination as a form of inequality and a problem. Gender discrimination in the labor market limits the available talent in the economy, which has negative economic consequences. Gender discrimination takes many forms. In reality, we often encounter situations that are considered normal from a religious or cultural point of view and at the same time exclude women from the economic mainstream. These situations can have profound economic consequences, because they do not allow society to use the talent that women have (Esteve-Volart, 2004)²⁶. Gender discrimination in the workplace can take the form of "disparate treatment," when individuals are intentionally treated differently based on their gender, or "disparate influence," when members of a particular group are negatively affected by decision-making procedures or existing work practices (Cleveland, Vescio and Barnes- Farrell, 2005)²⁷. According to SteelFisher et al. (2019)²⁸ mostly women who belong to a racial/ethnic minority or the LGBTQ community encounter gender discrimination in several areas of life.

According to Ivanco et al. (2010)²⁹, we can encounter several types of discrimination in practice:

²² Cottingham, Jane. et al. *Transforming health systems: Gender and rights in reproductive health*. 2001. WHO

²³ Unison The public service union. [cit. 7.9.2021]. [online]. Available at: <<https://www.unison.org.uk/get-help/knowledge/discrimination/gender-discrimination/>>

²⁴ Wayne, F. Cascio. *Managing Human Resource, Productivity, Quality of work life, Profits*. 1995. McGraw Hill Internationals (4th edition)

²⁵ Pokharel, Samidha. *Gender discrimination: Women perspectives*, Nepalese Journal of Development and Rural Studies, 5 (2): 80-87. 2008.

²⁶ Esteve-Volart, Berta. *Gender Discrimination and Growth: Theory and Evidence from India*. London School of Economics and Political Science. 2004. Available at: <http://eprints.lse.ac.uk/6641/1/Gender_Discrimination_and_Growth_Theory_and_Evidence_from_India.pdf>

²⁷ Cleveland, N. Jeanette. - Vescio, K. Theresa – Barnes-Farrell, L. Janet. *Gender discrimination in organizations. Discrimination at Work: The Psychological and Organizational Bases*. 2004. Psychology Press Taylor & Francis Group. ISBN 978-14-1061-156-7

²⁸ SteelFisher, K. Gillian et al. *Gender discrimination in the United States: Experiences of women*. Health Services Research. 2019. doi:10.1111/1475-6773.13217

²⁹ Ivanco, Štefan a kol. *Povedzme nie diskriminácii alebo ako sa brániť prostredníctvom práva*. Poradňa pre občianske a ľudské práva. 2010. Košice. ISBN 978-80-970354-6-4.

- direct and indirect discrimination,
- harassment,
- sexual harassment,
- instruction to discriminate,
- incitement to discrimination and
- unjustified penalty.

According to Act 365/2004³⁰, direct discrimination means different and less favorable treatment of persons in the same or comparable situation, while the reason for the different treatment may be race or ethnicity, age, gender, religion and other characteristics. Indirect discrimination occurs when an outwardly neutral regulation, decision, instruction or practice puts a person at a disadvantage compared to another person. If it is possible to justify such a neutral regulation, decision, instruction or practice by the fact that they pursue a legitimate interest and that it is necessary to achieve it, then it will not be a matter of discrimination, because such action is permitted by law.

Gender equality

Gender equality is a fundamental right and is also a fundamental value of a democratic society. It represents one of the important indicators of the level of development of democracy and the application of democratic principles in society. Due to its structural and institutional nature, gender equality is linked to the challenges of sustainable economic development and growth, social cohesion and the full use of the human potential of both women and men³¹. Porubánová (2005)³² defines gender equality as equal status and equal participation of both sexes in all spheres of public and private life with the goal of full social perception of men and women. According to Pietruchová (2007)³³, gender equality represents the fair treatment of women and men, which is based on the principle that all human beings have the right to freely develop their abilities and choose from options without being limited by gender roles. Pietruchová further claims that the goal of gender equality is to create a respectful space for

³⁰Act 365/2004 Coll. on Equal Treatment in Certain Areas and Protection against Discrimination, amending and supplementing certain other laws. [cit. 10.9.2021]. [online]. Available at: <https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_128039.pdf>

³¹Summary report on the state of gender equality in Slovakia and the activities of the Council of the Government of the Slovak Republic for Gender Equality. 2008. [online]. [cit. 7/9/2021]. Available at: <<https://bit.ly/3rTOKlm>>

³² Porubánová, Sylvia. *Realita a výzvy rodovej rovnosti na Slovensku*. Bratislava: F. Ebert Stiftung. 2005. ISBN 80-89149-07-3.

³³ Pietruchová, Oľga. *Príručka uplatňovania rovnosti príležitostí v projektoch spolufinancovaných EÚ*. Ministerstvo práce sociálnych vecí a rodiny Slovenskej republiky. 2007. ISBN 978-80-89125-12-8.

every woman and every man so that they can realize themselves in life according to their wishes and abilities and not be limited by gender stereotypes. The growing emphasis on gender equality is an important factor in the process of democratization (Inglehart et al., 2004)³⁴. Promoting gender equality is not only a consequence of democratization but also a part of a large-scale cultural change that is transforming many aspects of industrialized societies and promoting the spread of democratic institutions. According to Beer (2009)³⁵, gender equality is a complex and very often contested concept that needs to be evaluated in three areas:

- abilities,
- opportunities
- and empowerment.

Capabilities are often measured using indicators of the level of health, education and nutrition. The most common indicators are educational attainment and % of students enrolled in the educational process, life expectancy and gender ratios. Opportunities are measured by equality of access to resources, such as land, capital or other assets, together with the rate of economic activity of the population and the rate of employment. Status refers to the degree of representation in advisory offices and is often measured by the percentage of women in the parliaments or law.

Gender inequality represents certain costs that result in lower than potential performance of the economy, lower development of human resource capacities, and lower levels of comfort and well-being in society. If women had a higher economic status, many countries would achieve a combination of greater efficiency, greater development of human resources, more comfort and thus greater prosperity. Gender inequality is therefore economically inefficient (Sen, 1999)³⁶.

The legislative treatment of gender equality is in the Slovak Republic enshrined in Act 365/2004, the so-called Anti-discrimination law (see chapter Legislation in the field of gender equality in Slovakia and in the world) and also in the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).

³⁴ Inglehart, Ronald a kol. 2004. *Gender Equality and Democracy*. Comparative Sociology 1.3-4. 321-346. Available at: <https://wcfia.harvard.edu/files/wcfia/files/814_gender_equality_democracy.pdf>

³⁵ Beer, Caroline. 2009. Democracy and gender equality. *Studies in Comparative International Development*, 44(3), 212.

³⁶ Sen, Gita. 1999. *Gender Mainstreaming in Finance: A Reference Manual for Governments and Other Stakeholders*. Commonwealth Secretariat.

Equality of opportunities of women and men

The support of fundamental rights, non-discrimination and equal opportunities as one of the basic principles of the European Community builds on the democratic traditions of European civil society. According to the National Strategy for Gender Equality, equal opportunities for women and men are defined as³⁷ *"part of the concept of equality, which advocates that women and men have the same starting conditions for participation in the life of society in the economic, political and social spheres. Equality of opportunity does not mean the same conditions for women and men, because with regard to age, gender, disability, education, family obligations and other factors, different conditions must be created to ensure equal opportunities and their use."* It therefore represents the absence of obstacles for individuals based on their gender affiliation in participation in the economy, politics and social sphere. Equality of opportunity for women and men is a condition where all individuals can freely develop their abilities. It means equal status and equal participation of both sexes in all spheres of public and private life (Trnková, 2006)³⁸. Roemer and Trannoy (2016)³⁹ refer to equality of opportunity as an effort to equalize differences in outcomes attributable to luck, rather than differences in outcomes for which individuals are responsible.

Legislative treatment of equality between women and men is contained in the National Strategy for Equality between Women and Men and Equal Opportunities in the Slovak Republic for the years 2021-2027 and the Action Plan for Equality between Women and Men and Equal Opportunities for the Years 2021-2027 (see chapter Legislation in the field of gender equality in Slovakia and in the world).

Gender Mainstreaming

Gender mainstreaming refers to the process of incorporating a gender perspective into any policy, legislation or action to ensure that the problems of all (regardless of gender) are addressed and that gender inequalities are not perpetuated through institutional means (Alston, 2014)⁴⁰. The most famous characteristic is gender mainstreaming is the definition of ECOSOC

³⁷ National strategy for gender equality for the years 2009-2013. [cit. 9/9/2021]. [online]. Page 3 Available at: <<https://www.nrsr.sk/web/Dynamic/DocumentPreview.aspx?DocID=333744>>

³⁸ Trnková, Jana. *Rovné příležitosti jako součást společenské odpovědnosti firem*. Praha: Gender Studies, o. p. s. 2006. Dostupné na: <<https://bit.ly/3o3Xg6N>>

³⁹ Roemer, E. John. - Trannoy, Alain. 2016. *Equality of Opportunity: Theory and Measurement*. Journal of Economic Literature, 54 (4): 1288-1332. DOI: 10.1257/jel.20151206.

⁴⁰ Alston, Margaret. *Gender mainstreaming and climate change*. Women's Studies International Forum. Vol. 47. 2014. Pergamon. Dostupné na: <<http://dx.doi.org/10.1016/j.wsif.2013.01.016>>

(1997)⁴¹: " *Gender mainstreaming is the process of assessing the consequences of any planned action, including laws, policies or programs, on women and men in all areas and at all levels. It is a strategy that ensures that the interests of women's and men's experience become an integral part of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and social spheres so that women and men have equal benefits and gender inequality disappears. The ultimate goal is to achieve gender equality.*"

According to UN WOMEN⁴², gender mainstreaming integrates gender equality into public and private organizations, into central or local policies and into services and individual sectors. In the long term, gender mainstreaming aims to transform discriminatory social institutions, laws, cultural norms and community practices, such as those that limit women's access to property rights or restrict their access to public space. Pietruchová and Jójárt (2008)⁴³ understand the application of the gender perspective as a tool for achieving gender democracy or equal opportunities. It is a principle that brings gender relations to the fore. Waal (2006)⁴⁴ points out that the result of applying gender mainstreaming can be observed from a quantitative point of view (for example, the number of women who participate or have the same benefit from a certain project as men) or from a qualitative point of view (for example, if women have the same benefits as men or have the power to fight against gender injustice and change it). Gender mainstreaming is a challenge for mainstream politicians. It distinguishes a strong interrelationship between women's relative disadvantages and men's relative advantages. For example, inequality in the use of time by women and men has a direct impact on work patterns and possibly their life decisions.

According to MI SR (2004)⁴⁵ gender mainstreaming means:

- that differences between men and women must never be a basis for discrimination,
- radical rethinking of how labor markets work and their effects on female and male employment,

⁴¹ Economic Social Council. 1997. *Gender mainstreaming*. [cit. 9.9.2021]. [online]. str. 2. Available at: <<https://www.un.org/womenwatch/daw/csw/GMS.PDF>>

⁴² UN WOMEN. *Gender mainstreaming*. [cit. 9.9.2021]. [online].

Available at: <<https://www.unwomen.org/en/how-we-work/un-system-coordination/gender-mainstreaming>>

⁴³ Pietruchová, Oľga. – Jójárt, Paula. *Gender mainstreaming na Slovensku: skôr down ako top*. Zastúpenie Nadácie Heinricha Bölla v Poľsku. 2008. Varšava. ISBN: 978-83-61340-12-6.

⁴⁴ Waal. De Maretha. 2006. Evaluating gender mainstreaming in development projects, *Development in Practice*, 16:02, 209-214, DOI: 10.1080/09614520600562454

⁴⁵ MI SR. 2004. *Príručka o rodovej rovnosti*. EQUAL. [online]. Available at:

<https://ec.europa.eu/employment_social/equal_consolidated/data/document/gendermain_sk.pdf>

- long-lasting changes in society, changing parental roles, family structures and the organization of work, time and even institutional practices,
- reshaping the mainstream rather than adding activities for women on the endge,
- a partnership between women and men to ensure that both genders participate fully in the development of society and benefit equally from society's resources,
- returning to the roots of the causes of inequality and introducing corrective actions,
- ensuring that initiatives not only respond to gender differences, but also seek to reduce gender inequalities,
- asking the right question to identify where allocated resources should best be directed,
- more attention to men and their role in creating a society with the principle of equality.

1.2 Legislation in the field of gender equality in Slovakia and in the world

The sub-chapter is aimed at examining the legislative and legal provision of gender equality at the level of the Slovak Republic, the European Union, as well as at the global level.

Legislation in the Slovak Republic

The basic building block on which the legislation in the Slovak Republic is based is Constitutional Law No. 460/1992 Coll. (Constitution of SR)⁴⁶. According to Article 12 paragraph 1 of this document, *"People are free and equal in dignity and in rights. Basic rights and freedoms are inviolable, inalienable, imprescriptible, and indefeasible."* Continuity to paragraph 1 is subsequently contained in paragraph 2 of the same article: *" Basic rights and freedoms on the territory of the Slovak Republic are guaranteed to everyone regardless of sex, race, color of skin, language, faith and religion, political, or other thoughts, national or social origin, affiliation to a nation, or ethnic group, property, descent, or any other status. No one may be harmed, preferred, or discriminated against on these grounds."*

Another no less important document that ensures gender equality in the labor market is Act 311/2001 Coll⁴⁷ called the Labor Code, Article 6 of which states that *" Women and men shall have the right to equal treatment with regard to access to employment, remuneration and promotion, vocational training, and also with regard to working conditions. Women shall be*

⁴⁶ Constitutional Act No. 460/1992 Coll. Constitution of the SR. [cit. 10.9.2021]. [online]. Available at: <<https://www.prezident.sk/upload-files/46422.pdf>>

⁴⁷ Act 311/2001 Coll. Labor Code. [cit. 10.9.2021]. [online]. Available at: <https://ec.europa.eu/migrant-integration/library-document/act-no-3112001-coll-labor-code_en>

secured working conditions which enable them to partake in work with regard to their physiological capacity, and with regard to their social function of motherhood, and also women and men with regard to their family obligations in the upbringing and care of children." Article 119 of the Labor Code deals with wages conditions that *"must be agreed without any form of sex discrimination. Women and men have the right to wage for equal work and for work of equal value. Equal work or work of equal value is considered to be work of the same or comparable complexity, responsibility and urgency, which is carried out in the same or similar working conditions producing the same or comparable productivity and results of work for the same employer."*

A very important document is Act 365/2004 Coll⁴⁸ on Equal Treatment in Certain Areas and Protection against Discrimination, amending and supplementing certain other laws, which is also called the Anti-Discrimination Act. § 6 paragraph 1 of the Anti-Discrimination Act states that *"In conformity with the principle of equal treatment, any discrimination shall be prohibited in employment relations, similar legal relations and related legal relations on grounds of sex, religion or belief, racial, national or ethnic origin, disability, age and sexual orientation."* Thus, the Anti-Discrimination Act states that everyone has the right to equal treatment and protection from discrimination.

Act 5/2004⁴⁹ on employment services and on amendment of certain acts contains § 14 paragraph 2 which states that *"A citizen has the right of access to employment without any restrictions, in compliance with the principle of equal treatment in labor law relations and similar legal relations, provided for under a special regulation."*

There are several more laws regarding this issue:

- 312/2001 Coll. on Civil service and on amendment of certain Acts⁵⁰,
- 552/2003 Coll. on execution of work of public interest⁵¹,
- 448/2008 Coll. on social services and on amending of the consolidated Act No. 455/1991 on Business Registration.

⁴⁸ Act 365/2004 Coll. on Equal Treatment in Certain Areas and Protection against Discrimination, amending and supplementing certain other laws. [cit. 10.9.2021]. [online]. Available at: <https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_128039.pdf>

⁴⁹ Act 5/2004 on Employment services and amending certain laws. [cit. 10.9.2021]. [online]. Available at: <https://ec.europa.eu/migrant-integration/library-document/act-no-52004-employment-services_en>

⁵⁰ Act 312/2001 Coll. on civil service and amending certain laws. Available at: <<https://bit.ly/3i5GYdf>>

⁵¹ Act 552/2003 Coll. on execution of work of public interest. Available at: <<https://bit.ly/3VnzxfZ>>

Act 308/1993 Coll. on Establishment of the Slovak National Center for Human Rights⁵² belongs to the basic documents that ensure the institutional framework for the enforcement of rights in the field of gender equality in Slovakia. The main tasks of the Slovak National Center for Human Rights include:

- monitoring and evaluation of compliance with human rights and compliance with the principles of equal treatment according to a law,
- conducting research and surveys to provide data in the field of human rights, collecting and disseminating information in this field,
- providing legal assistance to victims of discrimination and manifestations of intolerance,
- issuing expert opinions, at the request of natural persons or legal entities or on their own initiative, in matters of compliance with the principle of equal treatment according to a special regulation,
- carrying out independent investigations related to discrimination,
- provision of services in the field of human rights,
- and other.

In the Slovak Republic, the Labor Inspectorate, headed by the National Labor Inspectorate, which have regional competence within the scope of the tasks established in § 7 of Act no. 125/2006⁵³ on Labor inspection and supplement the Act no. 82/2005 Coll. on Illegal Work and Employment and on amendments to certain laws. § 2 par. 1, letter a) of this law states that *"Labor inspection is supervision over adherence to labor law regulations regulating labor law relations, including, in particular, the establishing, change, and termination thereof, wages conditions and working conditions of employees, including working conditions of women, adolescents, homeworking employees, disabled persons and persons below the age of 15 years, and collective bargaining"*. In addition to the laws, the Slovak Republic is also bound by the so-called national strategic documents for society to move towards gender equality and suppress any discrimination.

One of the basic documents is the National Strategy for Gender Equality and Equal Opportunities in the Slovak Republic for the years 2021-2027 and the Action Plan for Gender

⁵² Act 308/1993 Coll. on the Establishment of the Slovak National Center for Human Rights. [cit. 10.9.2021]. [online]. Available at: <<https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/1993/308/20150901.html>>

⁵³ Act 125/2006 Coll. on Labor inspection and amending Act no. 82/2005 Coll. on illegal work and illegal employment and on amendments to certain laws. [cit. 10.9.2021]. [online]. Available at: <<https://bit.ly/3Ozd5y6>>

Equality and Equal Opportunities for the Years 2021-2027. By approving these two documents by the government, Slovakia committed itself to adopting positive measures aimed at achieving equality between women and men and equal opportunities. The goal of the Strategy is to achieve a just society - a society where equality between women and men is achieved, without all forms of discrimination, violence and any harmful practices against women and girls⁵⁴. While the main goals in the field of gender equality in the labor market are strengthening the economic independence of women and eliminating the causes leading to female poverty. The document also lists the operational goals with which the reduction of gender inequality is to be achieved:

- reduction of income differences between women and men,
- reducing horizontal and vertical segregation in the labor market and valuing work in female-dominated sectors,
- support of the principle of equality and non-discrimination in labor and social policies, application of impact assessment analysis and methodology,
- adequate valuation of unpaid work and its economic benefit, including its consideration in the pensions, support for a fair division of domestic and care responsibilities between partners,
- and other.

The Government of the Slovak Republic also committed itself to the implementation of gender equality and to the effort to eliminate it in the Program declaration of the Government of the Slovak Republic 2021-2024. *"The Slovak government will implement policies aimed at reducing inequalities between men and women and eliminating discrimination against women. The Slovak government will improve the legislation in the area of property rights, concerning persons living in a joint household."*⁵⁵

The Institute for Work and Family Research covers the National Project Prevention and Elimination of Gender Discrimination⁵⁶. The goal of the project is the systemic institutional provision of counseling activities in the field of gender discrimination, including gender-based violence. The project is aimed at creating, stabilizing and maintaining a system of integrated protection and support for victims of gender-based violence and harmonizing efforts to reduce

⁵⁴ MLSaF SR. 2021. *National strategy for gender equality between women and men and equal opportunities in the Slovak Republic for the years 2021-2027*. [cit. 10.9.2021]. [online]. Available at: <<https://bit.ly/3A2tC5N>>

⁵⁵ Program declaration of the Government of the Slovak Republic for the period 2021-2024. [cit. 10.9.2021]. [online]. p. 17. Available at:

<https://www.nrsr.sk/web/Dynamic/DocumentPreview.aspx?DocID=494677#_Toc156602>

⁵⁶ National project Prevention and elimination of gender discrimination. 2018. Institute for Work and Family Research. [online]. [cit. 12.9.2021]. Available at: <<https://ivpr.gov.sk/perd/>>

and prevent it. It focuses on connecting various procedures and measures, both legislative and non-legislative in nature. The goal of the project is to ensure the coordinated efforts of public administration institutions, as well as non-public entities, to prevent gender-based violence, reduce it and effectively support and protect persons who experience such violence.

In the summer of 2020, the Gender Equality in the Workplace project was launched⁵⁷, the aim of which is to improve the conditions for reconciling work and family life and to increase the employment of persons with parental responsibilities, especially women. The main purpose of the project is to contribute to:

- harmonization of family and work life,
- work-life balance,
- supporting women's participation in the labor market,
- improving the position of women in the work process,
- facilitating the return of women from maternity/parental leave.

Legislation at European union level

Article 119 of the Treaties of Rome⁵⁸ deals with gender equality in equal pay for equal work. The remuneration according to this article corresponds to the minimum wage or salary and at the same time other forms of remuneration, monetary or non-monetary, which the employer is obliged to pay to the employee based on the employment contract. According to this article *"equality of pay without distinction of gender means:*

- *that the remuneration for the same work at task wages is calculated according to the same rate,*
- *that the remuneration for work is the same for time wages for the same work.'*

According to Article 2 of the Treaty of Amsterdam (1997)⁵⁹, the task of the Community is the creation of a common market, economic and monetary union and the implementation of common policies and activities, which include the sustainable development of economic

⁵⁷ MLSaF SR. *Gender equality in the workplace*. [online]. [cit. 21.1.2022]. Available at: <<https://www.employment.gov.sk/sk/ministerstvo/projekty/narodny-projekt-rodova-rovnost-pracovisku/tlacove-spravy/rodova-rovnost-pracovisku.html>>

⁵⁸ Treaty of Rome. 1957. European Economic Community. [online]. [cit. 12.9.2021]. Available at: <<https://www.nrsr.sk/web/Static/sk-SK/EU/Doc/zmluva-o-euratome.pdf>>

⁵⁹ Treaty of Amsterdam amending the Treaty on European Union, the Treaties establishing the European Communities and some related acts. 1997. [online]. [cit. 12.9.2021]. Available at: <<https://www.nrsr.sk/web/Static/sk-SK/EU/Doc/amsterdamska-zmluva.pdf>>
Available at: <<https://www.nrsr.sk/web/Static/sk-SK/EU/Doc/amsterdamska-zmluva.pdf>>

activities, a high level of employment and social protection, the equal status of women and men, increasing the standard of living levels and quality of life or economic and social cohesion and solidarity. In all the activities mentioned in this article, the community aims to eliminate inequalities and promote equality between men and women. Article 6a states that *"The Council may (...) may take appropriate action to combat discrimination based on sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation."* According to Article 118, the Community promotes equality between men and women with regard to labor market opportunities and treatment at work.

According to Article 2 of the Treaty of Lisbon (2007)⁶⁰, the European Union *"shall combat social exclusion and discrimination, and shall promote social justice and protection, equality between women and men, solidarity between generations and protection of the rights of the child."* Furthermore, according to Article 5b, *"in defining and implementing its policies and activities, the Union shall aim to combat discrimination based on sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation."*

In March 2010, the European Commission adopted the Women's Charter⁶¹, which defines certain principles of equality between women and men. The guiding principles include:

- the same economic independence of women and men, ensured by the full realization of women's potential and the full use of their abilities or the support of gender balance on the labor market,
- equal pay for equal work and work of equal value,
- equality in decision-making through a fairer representation of women and men in positions of power in public life and the economy,
- an end to gender-based violence,
- promoting gender equality outside the Union through cooperation with international and regional organizations.

⁶⁰ Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community. 2007. Official Journal of the European Union. ISSN 1725-5236. [online]. [cit. 12.9.2021]. Available at: <<https://bit.ly/2WvwsQV>>

⁶¹ Women's Charter. 2010. European Commission. Brussels. [online]. [cit. 12.9.2021]. Available at: <<https://eur-lex.europa.eu/legal-content/SK/TXT/PDF/?uri=CELEX:52010DC0078&from=EN>>

The European Pact for Gender Equality (2011)⁶² calls on member states to introduce measures to eliminate gender inequalities and to combat gender segregation in the labor market. These measures include:

- to support the employment of women of all age groups and to eliminate gender differences in the field of employment also through the fight against all forms of discrimination,
- eliminate gender stereotypes and promote gender equality at all levels of education and training, as well as in working life, with the aim of reducing gender segregation in the labor market,
- ensure equal pay for equal work and work of equal value,
- to support the empowerment of women in political and economic life and to strengthen women's entrepreneurship,
- encourage social partners and businesses in the development and effective implementation of initiatives in favor of gender equality and support plans for gender equality in the workplace,
- promote the equal participation of women and men in the decision-making process at all levels and in all areas, so that all talents are used to their full extent.

Furthermore, the Council of the European Union in this document recognizes that equality between women and men is a fundamental value of the European Union and that gender equality policies are vital for economic growth, prosperity and competitiveness. In this document, the Council of the EU undertakes to fulfill the EU's ambitions in the field of gender equality. These include goals such as:

- eliminate gender differences in employment and social protection, including differences in pay between women and men,
- promote social inclusion through poverty reduction,
- promote a greater balance between the work and private lives of women and men throughout life in order to strengthen gender equality,
- increase the participation of women in the labor market and contribute to solving demographic challenges.

⁶² European Pact for Gender Equality. 2011. Official Journal of the European Union. [online]. [cit. 12.9.2021]. Available at: <<https://bit.ly/3GJNK2v>>

The Strategy for Gender Equality 2020-2025 (2020)⁶³ states that the promotion of equality between women and men is the Union's role in all its activities required by the Treaties. The goal of the strategy is to achieve a gender-equal Europe, in which gender-based violence, gender-based discrimination and structural inequality between women and men will be a thing of the past.

The strategy encourages solving the following problems in the field of gender equality:

- ending gender-based violence,
- challenging gender stereotypes,
- elimination of gender differences in the labor market,
- achieving equal gender participation in various sectors of the economy,
- solving the differences in remuneration and pensions between women and men,
- achieving a balanced representation of men and women in the decision-making process and politics,
- financing measures to achieve progress in the field of gender equality in the EU,
- addressing the issue of gender equality and women's empowerment worldwide.

Gender Action Plan III (2020)⁶⁴ is considered by the European Commission to be *"an ambitious plan to promote gender equality and the empowerment of women through all external actions of the European Union."* Gender Action Plan III provides the EU with a political framework with five pillars of action to accelerate progress towards meeting international commitments and to a world where everyone has room to thrive:

- makes the promotion of gender equality a priority of all external policies and activities,
- offers a plan of cooperation with stakeholders at the national, regional and multilateral level,
- intensify activity in strategic thematic areas,
- calls on institutions to lead by example and
- ensures transparency of results.

⁶³ Equality Union: Gender Equality Strategy 2020-2025. 2020. European Commission. [online]. [cit. 21.1.2022]. Available at: <<https://bit.ly/3AgGxSw>>

⁶⁴ Gender Action Plan – putting women and girls' rights at the heart of the global recovery for a gender-equal world. 2020. European Commission. [online]. [cit. 21.1.2022]. Available at: <<https://bit.ly/3GQYKs7>>

The EU Action Plan on Human Rights and Democracy 2020-2024 (2020) ⁶⁵, which was put into effect by the European Commission in March 2020, talks about the need to *"protect and empower individuals means ensuring that everyone can fully enjoy civil, political, as well as economic, social and cultural rights. Empowering all people ('leaving no one behind') involves enabling them to realize their full potential as equal and active members of society."* One of the main goals in the field of eliminating inequalities and protecting people is to *"intensify measures aimed at combating all forms of discrimination... and continue to call on all States to respect, protect and observe the human rights of members of minorities, including national, ethnic, religious and linguistic minorities."*

Legislation at the global level

The Charter of the United Nations (1945)⁶⁶ in Article 1 declares the purpose of the United Nations *"to achieve international cooperation in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion."* In Article 55, the UN undertakes to create the conditions of stability and well-being necessary for peaceful and friendly relations between nations through universal respect for human rights and fundamental freedoms for all without distinction of race, sex, language or religion.

"Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status." It is written in the Article 2 of The Universal Declaration of Human Rights (1948)⁶⁷, which was adopted at the UN meeting and defines the entire constellation of human rights, from cultural and political to social and civil. It also contains a ban on discrimination. However, the Universal Declaration of Human Rights is not binding on countries.

⁶⁵ EU Action plan on human rights and democracy 2020 – 2024. 2020. European Commission. [online]. [cit. 21.1.2022]. Available at: <<https://bit.ly/3XqFxFx>>

⁶⁶ The Charter of the United Nations. 1945. United Nations. [online]. [cit. 12.9.2021]. Available at: <<https://bit.ly/3EaI6mw>>

⁶⁷ Universal Declaration of Human Rights. 1948. United Nations. [online]. [cit. 12.9.2021]. Article 2. Available at: <<https://www.gender.gov.sk/wp-content/uploads/2012/06/UDHRvSVK.pdf>>

The International Covenant on Economic, Social and Cultural Rights (1966)⁶⁸ states in Article 7 that *"the States Parties to the present Covenant recognize the right of everyone to the enjoyment of just and favorable conditions of work...."* which includes:

- fair wages and equal remuneration for work of equal value without distinction of any kind, in particular women being guaranteed conditions of work not inferior to those enjoyed by men, with equal pay for equal work,
- safe and healthy working conditions,
- equal opportunity for everyone to be promoted in his employment to an appropriate higher level, subject to no considerations other than those of seniority and competence.

The Convention on the Elimination of All Forms of Discrimination against Women⁶⁹ (CEDAW) from 1979 (in the Czechoslovak Republic valid since 1987) defines in Article 1 discrimination against women as *"any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field."* According to Article 2 of this Convention, the contracting parties undertake:

- to embody the principle of the equality of men and women in their national constitutions or other appropriate legislation if not yet incorporated therein and to ensure, through law and other appropriate means, the practical realization of this principle,
- to adopt appropriate legislative and other measures, including sanctions where appropriate, prohibiting all discrimination against women,
- to establish legal protection of the rights of women on an equal basis with men and to ensure through competent national tribunals and other public institutions the effective protection of women against any act of discrimination,
- to refrain from engaging in any act or practice of discrimination against women and to ensure that public authorities and institutions shall act in conformity with this obligation,

⁶⁸ International Covenant on Economic, Social and Cultural Rights. 1966. United Nations. [online]. [cit. 12.9.2021]. Available at: <<https://www.ohchr.org/en/professionalinterest/pages/cescr.aspx>>

⁶⁹ Convention on the Elimination of All Forms of Discrimination against Women. 1979. United Nations. [online]. [cit. 12.9.2021]. Available at: <<https://bit.ly/3V7wRDw>>

- to take all appropriate measures to eliminate discrimination against women by any person, organization or enterprise,
- to take all appropriate measures, including legislation, to modify or abolish existing laws, regulations, customs and practices which constitute discrimination against women,
- to repeal all national penal provisions which constitute discrimination against women.

Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women adopted in 1999, published in Coll. no. 343/2001 Coll⁷⁰. From the point of view of the implementation of the Convention (CEDAW), it is considered an institution for guaranteeing women's human rights in countries that have adopted the Optional Protocol, as it allows women to submit individual complaints about violations of women's human rights to the Committee on the Elimination of Discrimination against Women, which must discuss and resolve these complaints.

The UN Beijing Declaration and Platform for Action (1995)⁷¹ is considered a turning point in the global agenda in the field of gender equality. Among the main goals, this declaration set out to take all necessary measures to eliminate all forms of discrimination against women and girls and to remove all obstacles to gender equality and the progress and empowerment of women. The declaration also emphasizes that women's rights are considered human rights. According to Mesochoritsová (2018)⁷², in the field of eliminating discrimination against women, the Beijing Declaration establishes the following goals and measures:

- to support and protect the human rights of women, through the full implementation of all human rights instruments,
- ensure equality and non-discrimination in the law and in practice by including the principles of equality between women and men in the legislation and through laws and other appropriate means to ensure the practical implementation of this principle,
- achieve legal education/literacy.

⁷⁰ Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women. 1999. Ministry of Foreign and European Affairs of the Slovak Republic. [online]. [cit. 12.9.2021]. Available at: <https://www.gender.gov.sk/wp-content/uploads/2012/06/CEDAW_Opcny_protokol_2000.pdf>

⁷¹ The Beijing Declaration and Platform for Action. 1995. United Nations. ISBN 978-1-936291-93-9

⁷² Mesochoritsová, Adriana. *Ženské práva sú ľudské práva: Významné míľniky ľudských práv žien v systéme OSN*. 2018. Možnosť voľby o.z. [online]. [cit. 12.9.2021]. Available at: <<https://bit.ly/3EdOfOE>>

1.3 Discrimination on the labor market

Work is the most important production factor, without which even the most sophisticated capital goods and the richest natural resources would remain dead things (Jurečka, 2010)⁷³. The labor market is under the influence of the same laws as other markets, but it manifests itself in specificities that result from the peculiarities of work as a factor of production. Labor does not exist by itself and only people - the workforce - have the ability to work (Lisý, 2016)⁷⁴. According to Rievajová et al. (2009)⁷⁵ the labor market is a space in which there is interaction between employers and employees. The labor market is connected to the market economy, in which, as in the case of services and products, labor is also sold and bought (employment contracts and wages are exchanged for the time and qualifications of workers). Employers and workers are two key actors of the labor market, who apply certain specific rational strategies on it. The labor market has not only economic, but also social, cultural, moral and ethical dimensions. The labor market, like any other market, is a market where supply and demand are formed and the price of labor is formed. We call the demand for labor from companies derived demand. It is a derived demand from the demand for goods and services, in the production and provision of which labor participates. According to Sapsford and Tzannatos (1993)⁷⁶, labor demand is defined as the amount of labor that employers seek to employ during a certain period of time at a specific wage rate.

According to Rievajová et al. (2009)⁷⁷ the labor supply is characterized by its scope and structure distributed according to gender, age, qualification and social affiliation. It is a matter of the number of workers and also the number of working hours that creates a labor supply. The labor supply is represented by households. The supply of labor represents the choice of the consumer who compares the benefit from leisure time with the benefit that flows to him from the products and services that he can purchase with the wage obtained by sacrificing leisure time and offering more work. The more work a person works, the more income, but the less free time he will have. An individual who chooses more leisure time will earn less than would otherwise be possible. So, there is a trade-off between free time and the income that can be

⁷³ Jurečka, Václav. *Mikroekonomie*. Praha: Grada Publishing a.s. 2010. ISBN 978-80-2473-259-6

⁷⁴ Lisý, Ján a kol. *Ekonomía*. Praha: Wolters Kluwer. 2016. ISBN 978-80-7552-275-7

⁷⁵ Rievajová, Eva a kol. *Trh práce a politika zamestnanosti*. Bratislava: Vydavateľstvo Ekonóm. 2009. ISBN 978-80-225-2878-8

⁷⁶ Sapsford David, Tzannatos, Zafiris. *Labor Demand: The Basic Model*. In: The Economics of the Labor Market. Texts in Economics. London: Palgrave. 1993. DOI:10.1007/978-1-349-22825-6_5

⁷⁷ Rievajová, Eva a kol. *Trh práce a politika zamestnanosti*. Bratislava: Vydavateľstvo Ekonóm. 2009. ISBN 978-80-225-2878-8

earned through work. The supply of labor on the labor market is therefore dependent on the level of the real wage rate and the marginal loss to work associated with the sacrifice of free time.

Similar to the owners of other factors of production, the owners of the factor of labor receive a pension in the form of wages for the services provided by this factor to companies. In a broader sense, wages can be understood as any form of income from work. It is formed on the labor market and is the result of the action of labor supply and labor demand. The term wage generally includes forms of rewards and payments for work performed.

Women and men have the right to equal treatment when it comes to access to employment, remuneration and working procedure, professional training and working conditions. In accordance with the principle of equal treatment, discrimination of persons based on many aspects, including gender, is prohibited in employment relations, similar legal relations and legal relations related to them. In the economic debate, two models of discrimination on the labor market are most often encountered - the model of employer preferences and the model of statistical discrimination (Becker, 1971)⁷⁸.

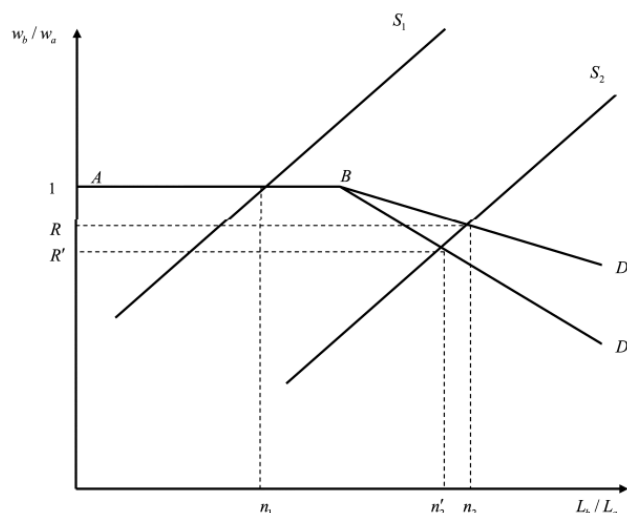
A model of employer preferences

The model of employer preferences (Taste-based model), which the economist Gary Becker (1971) was the first to come up with, talks about the fact that some workers, employers or customers do not want to work or come into contact with members of other racial groups or with women. The model does not explain why this bias exists, rather it simply assumes that there is a "taste" or preference against people from disadvantaged groups, and that this "taste" can be treated in exactly the same way that economists would analyze individual preferences between goods and services. An important assumption of this model is the fulfillment of the condition that the productivity of workers being the same for everyone and the return on the marginal product of labor is the same regardless of which group of workers the company employs. Consequently, there are two possible scenarios in this model. The first represents a situation where, if the company is to pay every employee the same wage, it decides not to employ members of disadvantaged groups, including women. The second scenario says that the company has the opportunity to offer a lower wage to people from disadvantaged groups. In that case, the company faces a decision. Either he decides to employ people from disadvantaged

⁷⁸ Becker, S. Gary. *The Economics of Discrimination*. Chicago: The University of Chicago Press, 1971. ISBN 978-02-260-4116-2.

groups for a lower wage and thus maximizes his profit, or he discriminates in the labor market and employs people from outside the endangered groups at the cost of higher wages and lower profit.

Figure 1.1: Model of employer preferences



Source: Charles and Guryan (2008)⁷⁹

Figure 1.1 shows three situations on the labor market according to the model of employer preferences. If the relative labor supply of a discriminated group of people (curve S_1) is small (n_1) and at the same time there are no discriminating firms, or they are only employed by firms that do not discriminate, then there is no wage discrimination on the labor market. However, if the relative labor supply of the discriminated group of people increases (shift to S_2), discrimination in the labor market will begin to manifest itself in that the disadvantaged group will also begin to be employed by companies that discriminate. We observe this phenomenon on the graph by the bending of the demand curve D and the drop in the relative wage of the disadvantaged to the level of R . In the event that discrimination and prejudice against these people increase (the labor supply remains constant - S_2), the relative wage of the disadvantaged will further decrease to the level of R' .

In this model, employers have a "taste to discriminate," which means that hiring minority workers is less valuable to them. Thus, minority workers will have to "compensate" employers by being more productive at a given wage, or equivalently, accept a lower wage for the same productivity. Discrimination can only exist if factors restricting competition persist in the market for labor and goods and services. On the contrary, the high competitiveness of these

⁷⁹ Charles, K. Kerwin, Guryan, Jonathan. 2008. *Prejudice and wages: an empirical assessment of Becker's The Economics of Discrimination*. Journal of political economy, 116(5), 773-809.

markets will mean higher profitability of non-discriminating firms compared to discriminating ones, which will result in the entry of non-discriminating firms into the market. This will put pressure on the growth of the price level and ultimately higher costs for discriminating companies (Bugárová, 2016)⁸⁰.

Model of statistical discrimination

The model of statistical discrimination talks about how an employer who does not intend to discriminate applies a different than the best decision-making rule (e.g., pay according to productivity), which in practice leads to discriminatory treatment of members of two groups (Balsa, 2001)⁸¹. Statistical discrimination differs from the employer preference model in that it assumes no prejudice or ulterior motive on the part of employers or employees, but rather that employers use average characteristics of groups to predict individual characteristics of workers (Schwab, 1986)⁸². The assumption of the model is that firms have limited information about the skills of job seekers. This gives them an incentive to use easily observable characteristics such as race or gender to calculate expected worker productivity (Autor, 2003)⁸³. In order to minimize the risks and costs associated with training, education and qualification, employers may choose to avoid applicants belonging to a group of workers who, due to certain average characteristics, are expected to provide less than expected job performance, or are more likely to that they will create other problems in the company. Such workers include immigrants, members of minority ethnic groups, older workers, long-term unemployed or women (Bonoli and Hinrichs, 2012)⁸⁴.

There are believed to be two sources of statistical discrimination and inequality. The first, known as "first moment" statistical discrimination, occurs when, for example, working women are offered lower wages because women are on average perceived to be less productive than men. Employers attribute average group characteristics to each individual from a disadvantaged group, when gathering information is costly (Dickinson and Oaxaca, 2009)⁸⁵.

⁸⁰ Bugárová, Milena. *Rizikové skupiny na trhu práce s dôrazom na absolventov škôl*. Revue Sociálno-Ekonomického Rozvoja. 1/2016. ISSN 2453-6148

⁸¹ Balsa, Ana. 2001. Statistical discrimination in health care. *Journal of health economics*, 20(6), 881-907.

⁸² Schwab, J. Stewart. 1986. Is statistical discrimination efficient?. *The American Economic Review*, 76(1), 228-234.

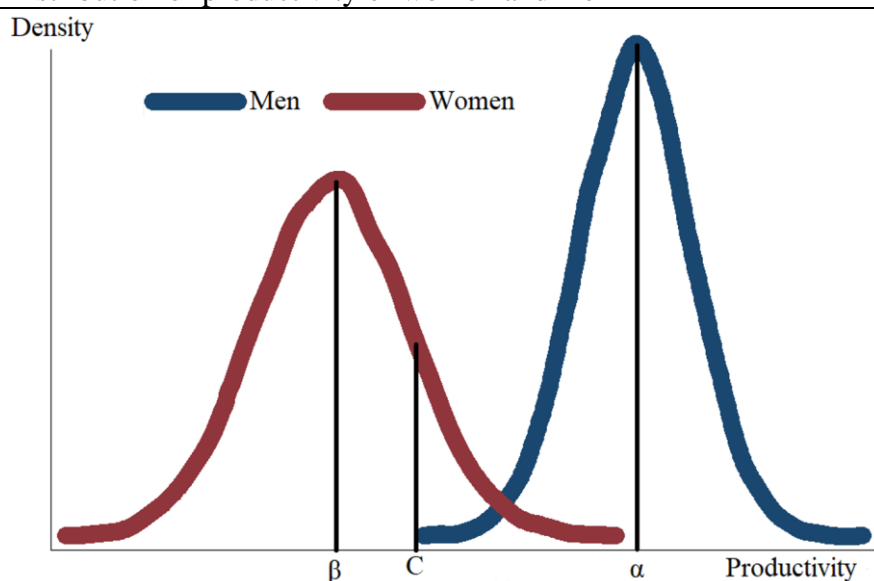
⁸³ Autor, H. David. 2003. Lecture Note: The Economics of Discrimination – Theory. MIT. Available at: <<https://economics.mit.edu/files/553>>

⁸⁴ Bonoli, Giuliano - Hinrichs, Karl. 2012. Statistical discrimination and employers' recruitment: Practices for low-skilled workers. *European Societies*, 14(3), 338-361.

⁸⁵ Dickinson, L. David - Oaxaca, L. Ronald. 2009. Statistical discrimination in labor markets: An experimental analysis. *Southern Economic Journal*, 76(1), 16-31.

This causes bias in employee selection, as average values of characteristics eliminate potential applicants who are above average. "Second moment" discrimination occurs when risk-averse employers offer female workers lower wages based not on lower average productivity but on higher variance in their productivity. On average, men and women have similar abilities, but the distribution of abilities has more variance among men than among women (Klumpp and Su, 2013)⁸⁶. Fewer women than men are then at the right end of the ability distribution, the relevant region for top jobs. Subsequently, phenomena such as a glass ceiling appear.

Figure 1.2: Distribution of productivity of women and men



Source: Own processing

The average level of investment in human capital, and thus productivity, differs between men and women, which is reflected in the difference in average earnings (Figure 1.2). On average, there is no discrimination against women based on these assumptions. However, there is discrimination against individual women. Specifically, those women with productivity levels to the right of the line above point C are paid less than comparable men. It is also clear that the greater the differences in productivity within a group of women, the more women will be paid compared to men who may be less productive. The curve showing the distribution of productivity would be wider and therefore overlap more with the distribution curve for men. Discrimination here involves unequal treatment of individuals based on real or perceived differences in the average characteristics of the groups to which they belong (Open.edu, 2022)⁸⁷.

⁸⁶ Klumpp, Tilman - SU, Xuejuan. 2013. Second-order statistical discrimination. *Journal of Public Economics*, 97, 108-116.

⁸⁷ Open.edu. 2022. *Productivity difference*. [online]. [cit. 20.1.2022]. Available at: <<https://bit.ly/3AuRznr>>

1.4 Gender segregation in the labor market

Segregation by gender is widespread and pervasive and is one of the most prevalent and persistent aspects of labor markets worldwide. All that despite the fact that there is a large increase in economically active women all over the world. Fitzsimmons (2017)⁸⁸ views gender segregation in the workplace as a system of patriarchy in which men oppress women. According to Meulders et al. (2010)⁸⁹, gender segregation refers to the tendency of women and men to work in different sectors and professions. However, the situation on the labor market is such that one gender dominates individual professions. Barošová (2008)⁹⁰ claims that: "*gender segregation in the labor market is the separation of people according to sex/gender within individual aspects of the labor market (in the field of employment, education, retraining, working conditions, etc.).*" However, it is important to realize that segregation and inequality are not synonymous and thus do not mean the same thing. Anker (1998)⁹¹ gives seven reasons why it is important to address gender segregation:

1. Gender segregation has a negative impact on how men perceive women, as well as how women perceive themselves, because it reinforces and perpetuates gender stereotypes. This in turn negatively affects the status and empowerment of women and consequently many social aspects such as mortality and morbidity, poverty and income inequality.
2. Gender segregation has a negative impact on the efficiency of the labor market and the functioning of the labor market. When women are excluded from certain occupations, there is a waste of human resources and a consequent reduction in income levels because many of the women are excluded from working in occupations where they would be most productive.
3. Gender segregation is a labor market rigidity that significantly reduces the ability of the labor market to respond to changes. In this context, it is important to note that labor market rigidity caused by gender segregation includes not only the exclusion of women from "male" occupations, but also the exclusion of men

⁸⁸ Fitzsimmons, Anette. 2017. *Gender as a Verb: Gender Segregation at Work*. Routledge. ISBN 978-13-517-4299-3

⁸⁹ Meulders, Danièle et al. 2010. *Horizontal and vertical segregation Meta-analysis of gender and science research – Topic report*. Dostupné na: <
http://www.genderportal.eu/sites/default/files/resource_pool/TR1_Segregation.pdf >

⁹⁰ Barošová, Margita. *Rodová segregácia a rodový mzdový rozdiel na trhu práce*. Bratislava: Medzinárodná konferencia. 2008. [online]. [cit. 5.10.2021]. Dostupné na: <<https://bit.ly/3iAqybT>>

⁹¹ Anker, Richard. *Gender and Jobs: Sex Segregation of Occupations in the World*. 1998. ILO. ISBN 978-92-210-9524-8

from "female" occupations. When these labor market inefficiencies and inflexibilities are viewed in the context of large increases in economic activity worldwide and the need for labor markets to adapt to rapid economic change, it is clear that countries can afford to ignore gender segregation and still remain competitive in today's global marketplace.

4. Gender segregation is likely to prevent many women from employment altogether, especially in developing countries. This has the adverse effect of increasing the fertility rate *ceteris paribus*, as the employment of women, especially in the formal sector, helps to reduce the fertility rate in developing countries. This adverse effect is particularly important in countries where reducing political population growth is a major policy goal.
5. Gender segregation is a major determinant of the wage gap between men and women, which is emphasized in the research literature. Most of the research literature on gender segregation is anchored in the analysis of the gender pay gap and the fact that "feminine" occupations have lower salaries compared to "male" occupations.
6. The gender segregation of men and women into different professions negatively affects the education and training of future generations. Decisions by parents and schools about what kind of education girls and boys should be given, as well as the field of study they should pursue, are largely based on opportunities in the labor market. This means that women's limited opportunities in the labor market and lower wages for "feminine" occupations help to maintain women's lower status in society and in the labor market for generations to come, thus also perpetuating this important source of labor market inefficiency and inequality.
7. The low wages and incomes of working women, a feature of gender segregation in employment, are becoming an increasingly important factor contributing to poverty and inequality in society as a whole. It is important to remember that a high percentage of households are led by women. Compared to men, women generally spend a larger part of their income on children and family needs.

When examining gender inequalities, the concept of division of labor, which distinguishes between horizontal and vertical gender segregation, is important. According to

Hakim (1979⁹², 1992⁹³), horizontal segregation exists when women and men work in different types of professions or sectors. It is widespread in every region, at all levels of economic development, in all political systems and in various religious, social and cultural environments (Steinmetz, 2011)⁹⁴. Horizontal segregation refers to segregation at the same job level. This is the extent to which men and women are in different professions, without any advantage flowing to one of the sexes (Blackburn and Jarman, 1997)⁹⁵. Horizontal segregation is a dimension that simply indicates a *difference or inequality in distribution* (from the point of view of the profession), which does not create inequality in remuneration (Browne, 2006)⁹⁶. For example, if all women and men were completely separated into different occupations (complete segregation) but all were paid the same, then there would be no inequality, only segregation. As a result, there would be no correlation between gender and salary, and vertical segregation would be zero since total segregation would involve only horizontal segregation. This explanation of horizontal segregation is common in the literature (Brooks et al. 2003)⁹⁷. Fortin and Huberman (2002)⁹⁸ argue that horizontal segregation involves segregation into jobs with similar educational requirements but in different fields of study or work-fields (clerks vs. truck drivers; nurses vs. mechanics; teachers vs. civil engineers). According to the literature (Bettio and Verashchagina, 2009)⁹⁹, the most feminized professions within the EU are: shop assistants and promo assistants, cleaners and laundry workers, and workers in the field of personal and social care. On the other hand, the most masculinized professions include motor vehicle drivers, construction and trade workers, and small business managers. Because horizontal segregation is often associated with gender role attitudes, it may become more persistent over time.

Vertical segregation explains one of the main reasons why gender segregation is harmful. An excellent explanation of vertical gender segregation is provided by Barošová

⁹² Hakim, Catherine. 1979. *Occupational Segregation: A comparative study of the degree and pattern of the differentiation between men and women's work in Britain, the United States and other countries*. Department of Employment.

⁹³ Hakim, Catherine. 1992. *Explaining trends in occupational segregation: the measurement, causes, and consequences of the sexual division of labor*. European sociological review, 8(2), pp.127-152.

⁹⁴ Steinmetz, Stephanie. 2011. *The Contextual Challenges of Occupational Sex Segregation: Deciphering Cross-National Differences in Europe*. Springer Science & Business Media. ISBN 978-35-319-3056-5

⁹⁵ Blackburn, M. Robert. - Jarman, Jennifer. 1997. *Occupational gender segregation*. *Social Research Update*. 16 (Spring). Available at: <<https://sru.soc.surrey.ac.uk/SRU16/SRU16.html>>

⁹⁶ Browne, Jude. *Sex segregation and inequality in the modern labor market*. Policy Press. 2006. ISBN 978-18-474-2169-2

⁹⁷ Brooks, Bradley et al. 2003. *Occupational gender segregation in Canada, 1981–1996: Overall, vertical and horizontal segregation*. Canadian Review of Sociology/Revue canadienne de sociologie, 40(2), 197-213.

⁹⁸ Fortin, M. Nicole. - Huberman, Michael. 2002. *Occupational gender segregation and women's wages in Canada: An historical perspective*. Canadian Public Policy/Analyse de Politiques, S11-S39.

⁹⁹ Bettio, Fabio - Verashchagina, Alina. 2009. *Gender Segregation in the Labor Market: Root Causes, Implications and Policy Responses in the EU*. Luxembourg: European Commission's Expert Group on Gender and Employment

(2009)¹⁰⁰: "Vertical gender segregation represents the distribution (number) of men and women in certain positions within one occupational category, with regard to the level of responsibility and importance of the job position, while one of the genders (as a rule it is men) is more likely to occupy a higher position within the given group/main class of occupations, etc. (e.g. men are more likely to occupy managerial positions, often of a higher level than women)." According to Emerek (2008)¹⁰¹, the term "vertical segregation" can easily be confused with the term "hierarchical segregation", and he further claims about vertical segregation that it refers to representation a certain group of people in occupations or sectors based on "desirable" attributes such as income, prestige or job stability. Valentova (2004)¹⁰² understands vertical segregation as the disproportionate participation of one gender in a narrow spectrum of occupations (professional segregation) and/or at certain levels of the professional hierarchy (hierarchical segregation). Kacprzak (2014)¹⁰³ sees vertical segregation as limiting career progression and career opportunities, especially for women. Iqbal (2016)¹⁰⁴ is also inclined to this opinion. Kreimer (2004)¹⁰⁵ considers the differences in remuneration of women and men (gender pay gap) and the differences in career opportunities for women and men with a similar qualification level to be the main indicators of vertical segregation.

¹⁰⁰ Barošová, Margita. 2009. *Rodová segregácia a rodový mzdový rozdiel na trhu práce*. Rokovanie Stálej komisie pre rodovú rovnosť a rovnosť príležitostí. [online]. [cit. 6.10.2021]. str. 2. Dostupné na: <<https://www.ceit.sk/IVPR/images/IVPR/prezentacie/Barosova/Prispevok.pdf>>

¹⁰¹ Emerek, Ruth. *Gender segregation in the labor market: roots, implications and policy responses in Denmark: Report to European Commission, Directorate-General for Employment, Social Affairs and Equal Opportunities*, Unit G. 1. Publications Office. 2008. Aalborg University.

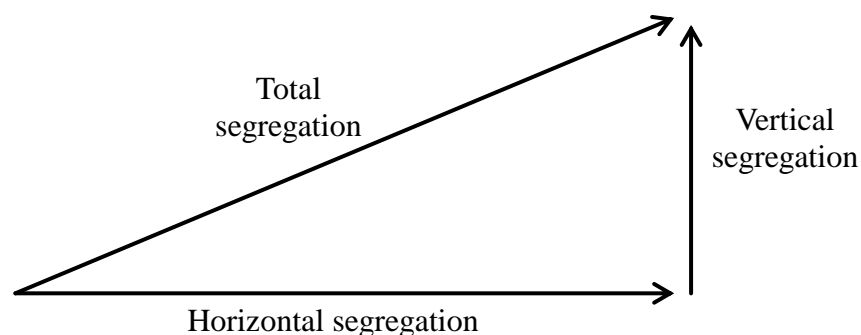
¹⁰² Valentová, Marie. *Gender segregation in the labor market*. VIVRE AU LUXEMBOURG. 2004. Chroniques de l'enquête PSELL-3/2004. Dostupné na: <<https://bit.ly/2YwpqxB>>

¹⁰³ Kacprzak, A. 2014. Determinants of Vertical and Horizontal Gender Segregation in the Workplace in Poland. *Argumenta Oeconomica Cracoviensia*, (11), 63-80.

¹⁰⁴ Iqbal, Maleeha. 2016. *Elimination workplace gender segregation does not work*. SOC362: Sex, Gender, and Work.

¹⁰⁵ Kreimer, Margareta. 2004. Labor Market Segregation and the Gender-Based Division of Labor. *European Journal of Women's Studies*. London. DOI: 10.1177/1350506804042097

Figure 1.3: Composition of gender segregation



Source: Blackburn et al. (2002)¹⁰⁶

According to Barátová (2009)¹⁰⁷, discrimination against women is most evident in the following areas:

- higher long-term unemployment of women compared to men,
- a higher concentration of women in lower paid areas, respectively a lower rating in professions traditionally attributed to women,
- low representation of women in senior and top management positions,
- differences in remuneration to the disadvantage of women even within the same or comparable job positions.

One of the consequences of gender segregation is discrimination against women in promotions. Two well-researched concepts are associated with this topic, namely the "glass ceiling" and the "sticky floor."

According to Dytrt (2014)¹⁰⁸, "glass ceiling" means a set of obstacles based on subjective, structural and organizational causes that prevent women as a group from advancing to middle and higher management positions. Despite significant gender equality in education and the entry of an increasing number of women into highly prestigious professions and managerial jobs, which have long been dominated by men, there are still few women in the

¹⁰⁶ Blackburne, M. Robert. Et al. *Explaining gender segregation*. British Journal of Sociology. Routledge Journals, Taylor & Francis Ltd. 2002 DOI: 10.1080/0007131022000021461

¹⁰⁷ Barátová, Jana. 2009. *Rodové nerovnosti na trhu práce*. Almanach: Aktuálne otázky svetovej ekonomiky a politiky. Ekonomická univerzita Bratislava. Ekonóm. 3622/2006. Dostupné na: <<https://fmv.euba.sk/RePEc/brv/almnch/A2009-2.pdf> >

¹⁰⁸ Dytrt, Zdeněk. *Ženy a management*. Albatros Media a.s. 2014. ISBN 978-80-265-0181-7

highest leadership positions in rich industrialized companies (Acker, 2009)¹⁰⁹. Although women work in managerial positions in some industries, they do not have the opportunity to take the last step that would take them to the highest level, to top management (Schmidt, 2011)¹¹⁰. At some point, women encounter an invisible barrier that blocks further upward movement (Baxter and Wright, 2000)¹¹¹. According to Cotter et al. (2001)¹¹², glass ceiling effects suggest that gender disadvantage is stronger at the top of the hierarchy than at lower levels, and that these disadvantages become more pronounced over the course of a person's career.

A quantitative expression of the level of the "glass ceiling" is expressed by the Glass Ceiling Index. The Glass Ceiling Index is a relative index comparing the proportion of women in academia with the proportion of women in the highest academic positions (the equivalent of professors in most countries) for a given year. The lower the value of the index, the stronger the glass ceiling effect and the more difficult it is for women to move to a higher position.

Figure 1.4 shows the values of the Glass Ceiling Index in 2020. From the figure, we can see that the best situation from the point of view of women is in the Nordic countries. Women in Sweden or Finland have the easiest career progression. Conversely, at the opposite end of the scale are Greece and Netherlands, where it is very difficult for women to get into positions in high management and at the level of professors. The Slovak Republic is slightly above the average of selected countries with an index value of 64.7, with almost 35% of women in top management.

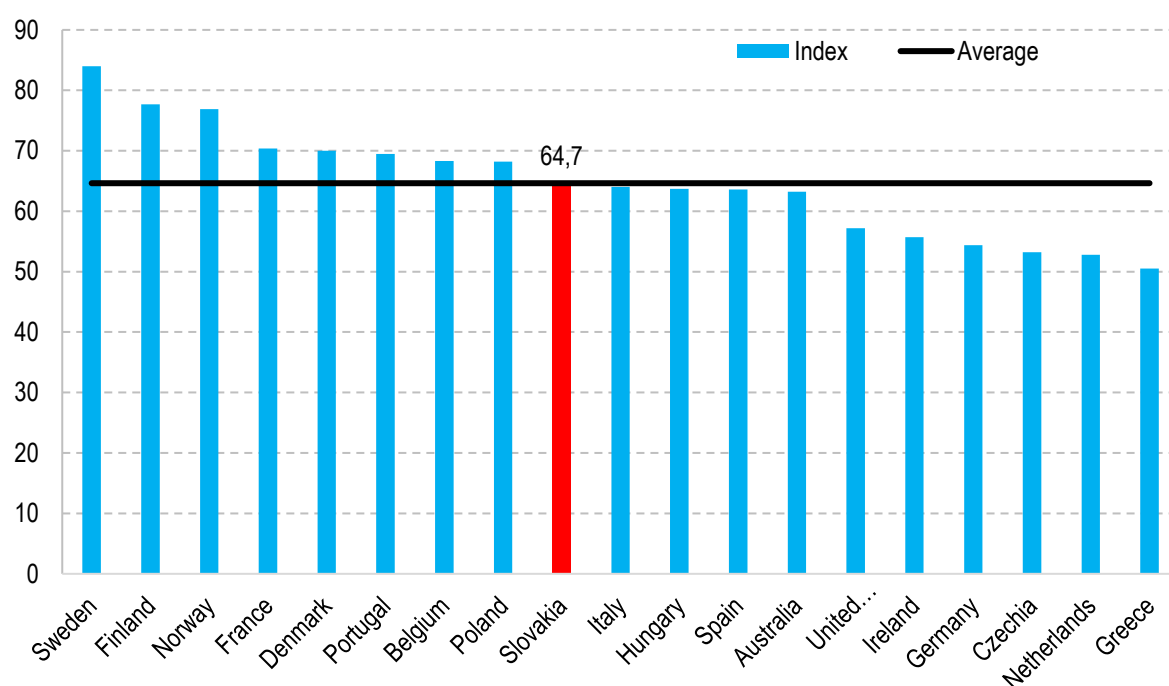
¹⁰⁹ Acker, Joan. 2009. *From glass ceiling to inequality regimes*. Sociologie du travail, 51(2), 199-217. DOI: /10.4000/sdt.16407

¹¹⁰ Schmidt, Marcus. 40 největších mýtů o budování kariéry. Grada Publishing a.s. 2011. ISBN 978-80-247-3740-9

¹¹¹ Baxter, Janeen - Wright, O. Erik. 2000. *The glass ceiling hypothesis: A comparative study of the United States, Sweden, and Australia*. Gender & society, 14(2), 275-294.

¹¹² Cotter, David et al. 2001 *The glass ceiling effect*. Social forces 80(2), 655-681.

Figure 1.4: Glass ceiling index, 2020



Source: own processing, The Economist¹¹³

According to Kee (2006)¹¹⁴, a “sticky floor” can be seen as the opposite scenario to a “glass ceiling” where gaps widen at the bottom of the wage distribution. Booth et al. (2003)¹¹⁵ defined it as a situation that occurs when men and women can be appointed to the same grade or position, but still women are assigned to lower and men to higher positions in the hierarchy. Sticky floor keeps women trapped in low-wage positions with little opportunity for upward growth (Kimmel, 2000)¹¹⁶. Women have great difficulty entering first-level management positions due to the fact that their qualifications and education are overlooked and therefore their opportunities are limited. Given the challenges women face in gaining entry-level management experience, the population of women in senior management positions remains low (Johnson et al., 2014)¹¹⁷. The fewer women in entry-level management positions, the fewer women are considered for future career advancement, leading to difficulty for organizations in diversifying their middle and senior management positions.

¹¹³ Available at: <https://www.economist.com/business/2021/03/06/is-the-lot-of-female-executives-improving?utm_medium=pr&utm_source=inf-a>

¹¹⁴ Kee, J. Hiau. 2006. *Glass ceiling or sticky floor? Exploring the Australian gender pay gap*. Economic Record, 82(259), 408-427.

¹¹⁵ Booth, Alison - Francesconi, Marco - Frank, Jeff. 2003. *A sticky floors model of promotion, pay, and gender*. European Economic Review, 47(2), 295-322.

¹¹⁶ Kimmel, S. Michael. 2000. *The Gendered Society*. Oxford University Press. ISBN 978-01-951-2587-0

¹¹⁷ Johnson, Cooper et al. 2014. *The Need to Practice What We Teach: The Sticky Floor Effect in Colleges of Business in Southern US Universities*. Journal of Academic Administration in Higher Education, 10(1), 27-33.

Shadovitz (2011)¹¹⁸ states that the issue of gender diversity in organizations supports the sticky floor effect more strongly than the glass ceiling effect in that managers in higher positions will be more diversified than lower-level positions. This finding suggests the possibility of strategically and deliberately promoting women from lower-level management positions to higher management positions, thus reducing the glass ceiling effect, unlike women in non-managerial positions trying to start their management careers, which in practice shows the sticky floor effect.

Other expressions are also mentioned in the literature with this issue. The author Williams (1995)¹¹⁹ first introduced the term "glass escalator", which explains the career progression of men who work in occupations dominated by women. Men in these industries (e.g. nursing, librarianship or teaching) feel pressure to move to higher paying and prestigious jobs in the field. While women in male-dominated professions often encounter a "glass ceiling" that prevents them from breaking through the highest ranks, men experience a glass escalator that invisibly but inexorably propels them to the top of female professions (Smith, 2013)¹²⁰. Even in professions where women have a significant numerical advantage, they still have problems with professional advancement. It is interesting that men who enter professions dominated by women are generally welcomed (because it increases the prestige of the profession). On the other hand, when women enter professions dominated by men, they do not experience such a warm welcome and their career development is often prevented (Mumby and Kuhn, 2018)¹²¹. Hays-Thomas (2016)¹²² explains the glass escalator by saying that men, on average, are more focused on maximizing their income than women. If this is the case, men may be more motivated or have more opportunities to reach top management than women. Through her research, Williams (1995)¹²³ found that racial discrimination in the labor market is stronger than the glass escalator effect, because gay men and non-white men did not experience the benefits of the glass escalator compared to white men and heterosexuals.

¹¹⁸ Shadovitz, Deborah. 2011. *Barriers to Advancement. Human Resource Executive* Dostupné na: <<http://www.hreonline.com/HRE/story.jsp?storyId=533329825&topic=Main>>

¹¹⁹ Williams, L. Christine. *Still a Man's World: Men Who Do Women's Work*. University of California Press. 1995. ISBN 978-05-209-1522-0

¹²⁰ Smith, Vicki. *Sociology of Work: An Encyclopedia*. SAGE Publications. 2013. ISBN 978-15-063-2093-9

¹²¹ Mumby, K. Dennis. – Kuhn, R. Timothy. *Organizational Communication: A Critical Introduction*. SAGE Publications. 2018. ISBN 978-15-443-5753-9

¹²² HAYS-THOMAS, Rosemary. *Managing Workplace Diversity and Inclusion: A Psychological Perspective*. Taylor & Francis. 2016. ISBN 978-11-364-6013-5

¹²³ Williams, L. Christine. *Still a Man's World: Men Who Do Women's Work*. University of California Press. 1995. ISBN 978-05-209-1522-0

The term "glass cliff" appears more and more often in the literature. This term refers to the observation that, compared to men, it seems that women are more often chosen for leadership positions in difficult crisis situations and, on the contrary, men are appointed to top management at a time when the company is flourishing and growing (Ryan and Haslam, 2005)¹²⁴. In the case of the glass cliff, women are held responsible for failure, resign or are fired. However, the factors that are neglected are the fact that a woman joining at a time of crisis is not responsible for the state in which the company has reached due to the influence of the previous management. According to Waldman and O'Reilly (2018)¹²⁵, discrimination, sexual harassment or a lack of support from colleagues are often the reason for the failure of women in such positions. This situation creates a negative feeling that women are not suitable for leadership levels (Pereira and Paoloni, 2019)¹²⁶. Vinnicombe (2009)¹²⁷ argues that women often accept risky and precarious senior positions in order to use them as a steppingstone in their careers. According to this assumption, some women may strategically seek positions that correspond to the glass cliff effect.

A very important term in the literature on gender inequality in the labor market is the "gender pay gap" (or gender wage gap). Higgins and Regan (2016)¹²⁸ define the gender pay gap very simply as an indicator of women's earnings compared to men's. Wage is of fundamental importance as a major determinant of the economic well-being of employed individuals, as well as the potential benefit of employment in the market for those who are not employed (Blau and Kahn, 1999)¹²⁹. It also serves as an important input into many decisions from job offers to marriage and fertility, as well as a factor affecting bargaining power and relative status in the family. It is calculated simply by dividing the average earnings of women by the average earnings of men or as the income gap of women compared to men (Abdel-Raouf and Buhler, 2020)¹³⁰.

¹²⁴ Ryan, K. Michelle - Haslam, S. Alexander. 2005. The glass cliff: Evidence that women are over - represented in precarious leadership positions. *British Journal of management*, 16(2), 81-90. DOI: /10.1111/j.1467-8551.2005.00433.x

¹²⁵ Waldman, A. David. - O'Reilly, A. Charles. *Leadership for Organizations*. SAGE Publications. 2018. ISBN 978-15-443-6052-2

¹²⁶ Pereira, T. Elisabeth – Paoloni, Paola. *Handbook of Research on Women in Management and the Global Labor Market*. IGI Global. 2019. ISBN 978-15-225-9173-3

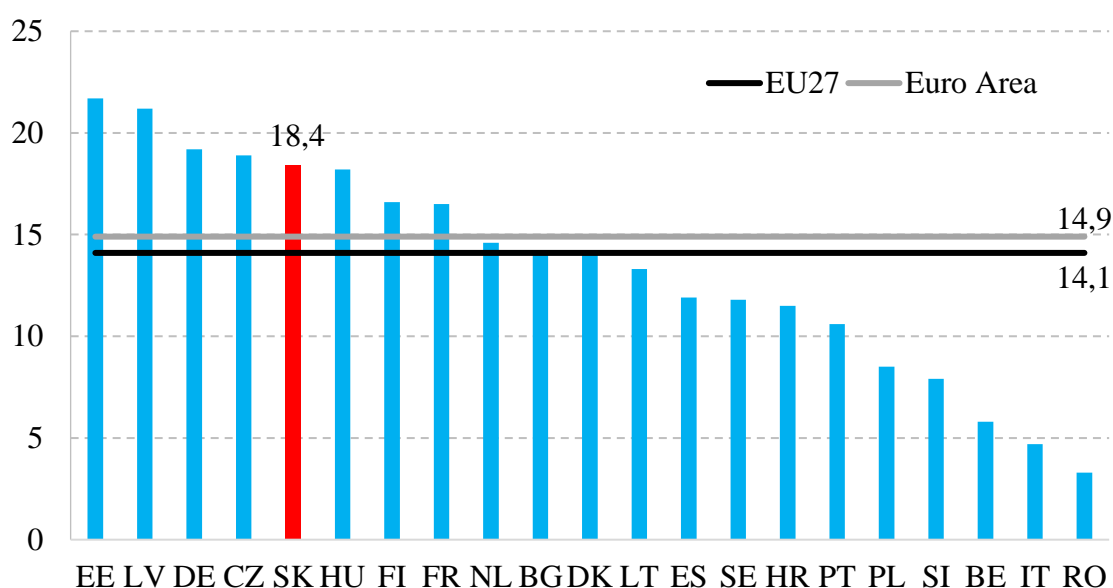
¹²⁷ Vinnicombe, Susan. 2009. *Women on Corporate Boards of Directors: International Research and Practice*. Edward Elgar Publishing. ISBN 978-18-484-4519-2

¹²⁸ Higgins, Melissa. – Regan, Michael. *The Gender Wage Gap*. ABDO. 2016. ISBN 978-16-807-9747-3

¹²⁹ Blau, D. Francine - Kahn, M. Lawrence. 1999. *Analyzing the gender pay gap*. *The Quarterly Review of Economics and Finance*, 39(5), 625-646.

¹³⁰ Abdel-Raouf, Fatma – Buhler, M. Patricia. *The Gender Pay Gap: Understanding the Numbers*. Routledge. 2020. ISBN 978-10-001-9550-7

Figure 1.5: Gender pay gap, unadjusted form, 2019



Source: own processing, Eurostat¹³¹

Figure 1.5 shows the values of the gender pay gap in the unadjusted form in the countries of the European Union. It also shows the average value in the European Union and the Euro Area. From the figure, we can see that up to three countries of the Visegrad Four Group achieve higher values of the gender wage gap than the average of the EU and the Euro Area. Estonia achieved the highest value in 2019, on the other hand, the greatest gender equality in remuneration is in Romania, where the difference is close to 3%. It is interesting that Nordic countries achieve higher inequality in remuneration than countries from the south of Europe. One of the explanations for this phenomenon can be the so-called The Scandinavian social model in the Nordic countries, which by providing significant social assistance can discourage women from participating in the labor market. The average of Eurozone countries is 0.8 percentage points higher than the average of the entire EU.

There is a gender pay gap in every European country, but the size of the gap varies significantly even in EU member states that seemingly have the same legal principles of equal pay. Part of the variation in the gender wage gap can be explained by different models of social partnership between European countries even at a time when there are significant EU policy pressures to decentralize collective bargaining and increase the percentage of wages to productivity (Conley et al., 2018)¹³².

¹³¹ Available at: <https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=earn_gr_gpgr2&lang=en>

¹³² Conley, Hazel et al. *The Gender Pay Gap and Social Partnership in Europe: Findings from "Close the Deal, Fill the Gap"*. Routledge. 2018. ISBN 978-13-517-3196-6

1.5 Literature Review

Research literature on the topic of gender segregation in the labor market is quite rich. Moreover, methodology, results and conclusions are heterogeneous. In this subchapter, we present a brief literature review on occupational and sectoral gender segregation and gender pay gap.

Occupational and sectoral gender segregation

Blackburn et al. (1993)¹³³ study labor market in England and Wales during period from 1950's to 1980's using marginal matching method and found that trend in gender segregation was fairly stable. Perrons (1995)¹³⁴, using data from Eurostat and Index of gender inequality in employment in the early 1990's, argues that welfare systems and regulatory structures are strongly related gender inequality in the workplace. Her results suggest that more social democratic approach should be implemented in order to secure gender equality. Numerous studies, including an analysis of the European surveys regarding labor market, have shown that a high degree of gender segregation is and has been an enduring aspect of the structure of the labor markets in Europe (Anker, 1998¹³⁵; Rubery et al., 1999¹³⁶) for a very long time. Fagan and Burchell (2002)¹³⁷ found that segregation was present in a variety of employment-related aspects and that throughout the 1990s, the patterns stayed largely stable. Women are disproportionately overrepresented in a small number of professions or industries in the European labor markets. Along with strong horizontal segregation, there is also vertical segregation present indicating that women are strongly underrepresented in positions of higher prestige and compensation. Dolado et al. (2002)¹³⁸ researched trends in occupational segregation in EU countries for LFS 1999 dataset and the Current Population Survey for USA. Their findings suggest that in the case of female graduates, segregation is decreasing across age cohorts, while constant for those with lower levels of education. Furthermore, gender segregation is found to be positively correlated with part-time form of contracts, similarly to

¹³³ Blackburn, R. M., Jarman, J., & Siltanen, J. (1993). The analysis of occupational gender segregation over time and place: Considerations of measurement and some new evidence. *Work, Employment and Society*, 7(3), 335-362.

¹³⁴ Perrons, D. (1995). Economic strategies, welfare regimes and gender inequality in employment in the European Union. *European Urban and Regional Studies*, 2(2), 99-120.

¹³⁵ Anker, R., *Gender and Jobs: Sex Segregation of Occupations in the World*, Geneva, International Labour Organisation, 1998.

¹³⁶ Rubery, J., Smith, M. and Fagan, C., *Women's Employment in Europe: Trends and Prospects*, London, Routledge, 1999.

¹³⁷ Fagan, C., & Burchell, B. (2002). *Gender, Jobs and Working Conditions in the European Union*.

¹³⁸ Dolado, J. J., Felgueroso, F., & Jimeno, J. F. (2002). Recent trends in occupational segregation by gender: a look across the Atlantic. Available at SSRN 320108.

relationship between gender pay gap and occupational segregation. In comparison with the US, the authors found that gender segregation is higher in EU countries. Bettio (2002)¹³⁹ uses LFS, SES and ECHP data to compute Index of Dissimilarity and gender pay gap. Her results show that female employment and gender segregation are positively associated, suggesting strong self-selection effect. Regarding wage inequalities, results show that meanwhile female redistribution between professions has rather low or no effect on gender pay gap, within professions redistribution has significant impact. Petrongolo (2004)¹⁴⁰ shows evidence on segregation in type of employment for ECHP data from 15 EU countries. The author compares northern and southern Europe countries with results showing that part-time positions in southern countries are more likely involuntary and job satisfaction is rather low in comparison with fulltime positions and northern countries. Smyth (2005)¹⁴¹ studied gender segregation in the European countries on the LFS 2000 data. Results of the study showed that the degree of educational gender segregation varies across nations, but certain trends are clear, with women predominating in social and artistic sectors or education while men predominate in mathematical and engineering courses. Results also showed that countries with higher gender segregation also largely suffer from higher gender occupational segregation. Smyth and Steinmetz (2008)¹⁴² aim their research on impact of educational institutions on directing tertiary graduates toward gender-conforming professions and the degree to which this process differs between nations. LFS 2004 data for 17 EU countries provide results suggesting that institutional variance in education and labor market systems must be taken into consideration when examining cross-national differences in professional gender segregation. Furthermore, relevant proportion of the cross-national differences in gender segregation is explained by the proportion of women in higher education and employment, gender pay gap, and the childcare availability. Barone and Assirelli's research (2020)¹⁴³ further argue that one of the main explanations for the enduring gender inequalities in the job market is the gender segregation in higher education even though educational attainment seems to be in favor of women. Results of their research demonstrate that rational choice explanations (explanations based on skills or differences

¹³⁹ Bettio, F. (2002). The pros and cons of occupational gender segregation in Europe. *Canadian Public Policy/Analyse de Politiques*, S65-S84.

¹⁴⁰ Petrongolo, B. (2004). Gender segregation in employment contracts. *Journal of the European Economic Association*, 2(2-3), 331-345.

¹⁴¹ Smyth, E. (2005). Gender differentiation and early labour market integration across Europe. *European Societies*, 7(3), 451-479.

¹⁴² Smyth, E., & Steinmetz, S. (2008). Field of study and gender segregation in European labour markets. *International Journal of Comparative Sociology*, 49(4-5), 257-281.

¹⁴³ Barone, C., & Assirelli, G. (2020). Gender segregation in higher education: an empirical test of seven explanations. *Higher Education*, 79, 55-78.

between genders in job choices) fall short of explaining segregation. On the other hand, preferences for particular professions and academic topics along with curriculum track selection at secondary level significantly mediate segregation. Bettio et al. (2009)¹⁴⁴ compares patterns in gender segregation across the EU27 and Iceland, Norway and Liechtenstein during period of 1992-2007 using Karmel-Lachlan (IP) and Dissimilarity Index. Their results show that segregation as assessed by the IP index remains comparatively high across the EU, hitting 25.3% for occupational segregation and 18.3% for sectoral segregation. Moreover, country differences are significant with 10 p.p. gap between countries with the highest and lowest levels of gender segregation. Implications from their research suggest that female employment is positively associated with gender segregation in the short and medium run. As a result, a trade-off between the goals of increasing women's employment and desegregation policies may arise. Kjeldstad and Nymoen (2012)¹⁴⁵ study LFS data for Norway and argue that labor market in Norway is highly gender segregated in terms of sensitivity to economic fluctuations. According to results, underemployed males are more likely to be fired on a part-time basis, whereas women are more likely to be permanently fired from jobs with longer working hours. Results also confirmed by Kameråde and Richardson (2018)¹⁴⁶ for UK. Schäfer et al. (2012)¹⁴⁷ use European Social Survey 2002-2008 to identify the determinants of differences in the likelihood of women being employed in high-status jobs in 12 European countries. According to the findings, a large service sector and a high union density increase women's probabilities of finding high-status jobs, while a large public sector particularly helps to lessen the number of women who are channeled into low-wage jobs. As a result, equality at the top and bottom can coexist, especially in postindustrial nations with a strongly segregated occupational structure. Dämmrich and Blossfeld (2017)¹⁴⁸ further research this topic on LFS 2013 dataset for 26 European countries. Their results confirmed previous studies findings that women continue to face barriers in advancement in management positions across almost all examined countries. However, they

¹⁴⁴ Bettio, F., Verashchagina, A., & Camilleri-Cassar, F. (2009). Gender segregation in the labour market: Root causes, implications and policy responses in the EU.

¹⁴⁵ Kjeldstad, R., & Nymoen, E. H. (2012). Underemployment in a gender-segregated labour market. *Economic and Industrial Democracy*, 33(2), 207-224.

¹⁴⁶ Kameråde, D., & Richardson, H. (2018). Gender segregation, underemployment and subjective well-being in the UK labour market. *Human Relations*, 71(2), 285-309.

¹⁴⁷ Schäfer, A., Tucci, I., & Gottschall, K. (2012). Top down or bottom up? A cross-national study of vertical occupational sex segregation in 12 European countries. In *Firms, boards and gender quotas: Comparative perspectives* (Vol. 29, pp. 3-43). Emerald Group Publishing Limited.

¹⁴⁸ Dämmrich, J., & Blossfeld, H. P. (2017). Women's disadvantage in holding supervisory positions. Variations among European countries and the role of horizontal gender segregation. *Acta Sociologica*, 60(3), 262-282.

also found that women are least disadvantaged when working in male-dominated occupations compared to gender-mixed and female-dominated occupations.

Gender pay gap

Gender pay gap is one of the most discussed topic in relation with gender segregation in the labor market. Utilizing microdata from ten nations, Blau and Kahn (1996)¹⁴⁹ analyze the wage structure's impact on the gender pay gap. Their findings show that lower gender segregation is associated with lower gender pay gap. They also found that wage penalty is higher for those with poor skill levels or jobs in low-wage industries. Newell and Reilly (2001)¹⁵⁰ examine the development of the gender pay gap in Eastern Europe post-communist countries. The conclusions are that during the transitional period, there hasn't generally been an upward trend in the gender pay gap. Using decompositions method, the 'unexplained' component is attributed for the majority of the gender pay gap. Plantenga and Remery (2006)¹⁵¹ study the gender pay gap on SES 2002 data for 25 European countries. According to their results, the gender pay gap levels are about 25 % in cross-country sample, varying from 11 % to 30 %. Authors also argue that gender pay gap was stable over the period of 1990's. Gannon et al. (2007)¹⁵² investigate the SES 1995 data for 6 European countries with purpose of analyzing the relationship between the gender pay gap and inter-industry wage differences. Research indicates that there are sizable wage differences between industries in every country for both genders. Their distribution is much wider in nations with decentralized bargaining, even though their structure is quite comparable for men and women and across countries. Additional findings show that sector influences on the gender pay gap vary significantly across European nations. Nicodemo (2009)¹⁵³ examines the pattern of the gender pay gap between wives and husbands in Mediterranean nations with a strong emphasis on the family using ECHP 2001 and EU-SILC 2006 datasets. Results suggest that pay gap is present in every nation, with the discrimination effect making up the majority of it and the characteristics effect being minimal. The sticky floor effect, where the gender disparity is wider at the bottom of the

¹⁴⁹ Blau, F. D., & Kahn, L. M. (1996). Wage structure and gender earnings differentials: an international comparison. *Economica*, S29-S62.

¹⁵⁰ Newell, A., & Reilly, B. (2001). The gender pay gap in the transition from communism: some empirical evidence. *Economic Systems*, 25(4), 287-304.

¹⁵¹ Plantenga, J., & Remery, C. (2006). The gender pay gap. Origins and policy responses. A comparative review of thirty European countries. *Synthèse du rapport pour la Commission Européenne, Equality Unit*.

¹⁵² Gannon, B., Plasman, R., Rycx, F., & Tojerow, I. (2007). Inter-industry wage differentials and the gender wage gap: evidence from European countries. Vol. XX, No. XX, Issue, Year.

¹⁵³ Nicodemo, C. (2009). Gender pay gap and quantile regression in European families.

distribution, affects wives in Mediterranean nations. Allaéz-Aller et al. (2011)¹⁵⁴ use data from the Household Panel for 2000 to show how the gender wage gap varies across 13 EU member states using kernel density function. Authors argue that it is possible to observe a variety of situations, from the countries with rather low gender pay gap (Mediterranean) to the extremely unique examples of Austria and the UK and to Scandinavian countries, where the gender pay gap is primarily caused by a greater percentage of men at better-paid levels. Christofides et al. (2013)¹⁵⁵ showed on EU-SILC 2007 data for 26 European countries that depending on the country, how the difference is defined, and the selection-correction techniques used, the gender pay gap can vary significantly in magnitude. Regression analysis reveals that in a lot of countries the glass ceiling and sticky floor effects exist. For full-time employees, authors discovered larger pay gaps and proof of glass ceilings, indicating greater disadvantage for women in "better" positions. Boll and Lagemann (2014)¹⁵⁶ study gender pay gap in 24 EU countries and Norway on SES dataset. According to their study, in Europe there are pay gaps between men and women still enduring. However, a significant geographical heterogeneity appears. The pay difference that can be explained by the observable characteristics of men and women is of a magnitude of 4.8%. The pay gap between males and women with comparable characteristics after adjustment was 9.4%. Consequently, a larger percentage of the overall gap was unaccounted for (unexplained part). O'Reilly et al. (2015)¹⁵⁷ describe the main aspects that affect gender pay gap in the UK, Europe, and Australia. They found that, among others, discussions about theory and concepts, legal changes and their impact, wage-setting institutions and changing labor demand belong to the strongest determinants of the gender pay gap. Schäfer and Gottschall (2015)¹⁵⁸ examine the effect of national wage-setting institutions on the pay gaps between male and female workers using EU-SILC data in 25 European countries. Findings from the country comparison point to a sizable gender pay gap across sectors with distinct country patterns. The overall impact of trade unions and the connection between pay bargaining techniques and particular minimum wage laws appear to be the causes of national patterns.

¹⁵⁴ Allaéz-Aller, R., Longás-García, J. C., & Ullibarri-Arce, M. (2011). Visualising gender wage differences in the European Union. *Gender, Work & Organization*, 18, e49-e87.

¹⁵⁵ Christofides, L. N., Polycarpou, A., & Vrachimis, K. (2013). Gender wage gaps, 'sticky floors' and 'glass ceilings' in Europe. *Labour Economics*, 21, 86-102.

¹⁵⁶ Boll, C., & Lagemann, A. (2018). Gender pay gap in EU countries based on SES (2014). Luxembourg, Publication Office of the European Union. doi, 10, 978935.

¹⁵⁷ O'Reilly, J., Smith, M., Deakin, S., & Burchell, B. (2015). Equal pay as a moving target: International perspectives on forty-years of addressing the gender pay gap. *Cambridge Journal of Economics*, 39(2), 299-317.

¹⁵⁸ Schäfer, A., & Gottschall, K. (2015). From wage regulation to wage gap: how wage-setting institutions and structures shape the gender wage gap across three industries in 24 European countries and Germany. *Cambridge Journal of Economics*, 39(2), 467-496.

Hedija (2017)¹⁵⁹ uses big dataset of EU-SILC survey for 24 European countries to study whether there is a difference in the unexplained gender pay gap across the various economic sectors using linear regression model. The results of her study suggest that the unexplained gender pay gap varies between and within the different EU member states as well as in the various sectors. The proportion of women in the sector and ownership are the two most crucial variables in determining how the gender pay gap varies among the various sectors. Leythienne and Ronkowski (2018)¹⁶⁰ study gender pay gap on EU-SES 2014 data for EU28 and Iceland, Norway and Switzerland using decomposition techniques. The decomposition results show that explained part of the gender pay gap makes over 50 % of the unadjusted gender pay gap for some countries. In those countries, differences in the average observable characteristics of men and women on the labor market, can account for more than half of the unadjusted wage disparity, favoring men. On the other hand, in some countries explained part of the gender pay gap is negative, which indicates that female workers exhibit typical traits on the job market that are higher valued than those of males. This is especially true in countries where the labor market only attracts women with university degrees and relevant experience resulting in the self-selection effect. The decomposition of the gender pay gap and its explanatory factors enable a clearer detection and understanding of the determinants of the gender pay gap. As a result, governmental initiatives can be more precisely targeted. Redmond and McGuinness (2019)¹⁶¹ argue that gender pay gap has declined over time. Furthermore, gender pay gap, mainly in Eastern Europe, consists almost entirely out of unexplained part. On the other hand, in some countries the differences in characteristics of men and women account for a sizable portion of the wage differences. The contribution of differences in job preferences accounts for about 10% of the gender pay gap. Moreover, job preferences play a more significant role at the right-side of the wage distribution. Interesting results are brought by study of relationship between robotization and the gender pay gap (Aksoy et al., 2021)¹⁶². The results show that robotization increases wages for both gender but also the gender pay gap. Instrumental variable approach revealed that 10% increase in robotization causes a 1.8% rise in the gender pay gap, explaining this effect by men in high skilled jobs benefiting from robotization more than women.

¹⁵⁹ Hedija, V. (2017). Sector-specific gender pay gap: evidence from the European Union Countries. *Economic research-Ekonomska istraživanja*, 30(1), 1804-1819.

¹⁶⁰ Leythienne, D., & Ronkowski, P. (2018). A decomposition of the unadjusted gender pay gap using Structure of Earnings Survey data. Luxembourg: Publications Office of the European Union.

¹⁶¹ Redmond, P., & McGuinness, S. (2019). The gender wage gap in Europe: Job preferences, gender convergence and distributional effects. *Oxford Bulletin of Economics and Statistics*, 81(3), 564-587.

¹⁶² Aksoy, C. G., Özcan, B., & Philipp, J. (2021). Robots and the gender pay gap in Europe. *European Economic Review*, 134, 103693.

2 Aim of the dissertation thesis

The focus of this thesis is the gender segregation in the labor market in selected European countries. This issue has been a concern for many years, but according to our opinion this issue still needs to be addressed and further discussed despite the numerous studies focused on this issue which have been done before. To examine how gender relations actually play out in the labor market, we utilize a theoretical framework. Since there are many different issues with gender segregation in the labor market, we are focusing on vertical and horizontal segregation as well as gender pay gap. We believe that these phenomena are heavily intertwined. The main aim of this dissertation is to examine, scientifically process and quantify the aspects of gender segregation in the labor market in the European countries with a closer focus on the Slovak Republic. The main focus is on quantifying of non-financial (vertical, horizontal segregation and indexes) and financial indicators (different forms of gender pay gap). The dissertation also focuses on providing some potential and practical recommendations to enhance the equality in the labor market based on an evaluation of the gender segregation that currently exists in the European countries. We anticipate that this research will shine new light on the problem.

To fulfil the main goal, reflecting the topic of the thesis and to achieve more accurate results, we set some partial goals. As a first partial goal we summarize theoretical approaches to gender segregation on the labor market in EU countries with a closer focus on the Slovak Republic. The partial goal is devoted to the explanation of basic concepts that lead to the clarification of the theoretical foundations of the issue of gender segregation.

Second partial goal is focused on the examination of legislative and legal protection of gender equality at the level of the Slovak Republic and the European Union. There are many laws at national and international level, according to which men and women must get equal pay for doing equal work. They also must have the same opportunities and cannot be discriminated because of their gender therefore it is very important to study and remind society of the rights which men and women in the labor market have. Both, first and second, partial goals are considered to be a fundamental part of the dissertation thesis and their purpose is to obtain general knowledge of the gender segregation problematics. Value added of these two partial goals lies in summarization of the research literature related to the gender segregation in the labor market.

As a third partial goal we have chosen to quantify vertical and horizontal segregation at the level of sections of classification of economic activities NACE Rev. 2 and types of occupations (ISCO-08) at the groups level. This quantification helps us to identify male-dominated and female-dominated sectors and occupations. Moreover, it helps to reveal a cause of occurrence of gender segregation in the labor market and its differences among observed countries.

Fourth partial goal is to quantify the indicators and indexes of gender segregation resulting from theoretical approaches to gender segregation. These indexes provide probably the most useful information on the extent of gender segregation. Their results can be interpreted as the percentage of the workforce that would need to change jobs to end segregation, controlling for different disparities between the employment of men and women.

Fifth partial goal focuses on quantifying the unadjusted form of the gender pay gap in individual sectors and occupations of national economies both at the national and international level. We also compute the unadjusted gender pay gap by age groups and educational levels. Comparing the degree of gender disparity between nations in the literature frequently involves using the unadjusted gender pay gap. “Equal pay for equal work” is, again, very important concept when calculating the gender wage gap and it is vital to take this idea into account.

Sixth partial goal focuses on quantifying the adjusted form of the gender pay gap. “Adjusting” the gender pay gap means that we control for observable characteristics like individual characteristics (e.g., age, education, etc...) and labor market characteristics (sector, occupation, contract type, etc...). This partial goal allows us to identify the extent of contribution of each observable characteristic to the gender pay gap and identify the hypothetical situation of what would happen if men and women had the same observable characteristics.

Seventh partial goal is to quantify the Oaxaca-Blinder decomposition of the gender wage gap into explained and unexplained parts. This econometrical analysis allows us to compute the different returns on individual and labor market characteristics specific for men and women. It also shows the unexplained part which in part accounts for discrimination in the labor market. This part of the analysis is also extended by Heckman correction model, which controls for people not in employment and shows us the possible outcome of the labor market in case that not employed people become employed.

Eighth goal aims at proposing recommendations to support gender equality in the labor market in the conditions of the Slovak Republic.

Hypotheses

In order to reach our main research goal, we established the following hypotheses:

The first hypothesis (H1) states that gender segregation is higher in sectors and occupations that are considered typically "feminine" or female-dominated than in "masculine" or male-dominated. Glass ceiling effect is still predominant in female-dominated sectors and occupations meaning that even though the sector is highly represented by women, they are employed on lower hierarchical positions associated with lower wages. On the contrary, higher hierarchical positions associated with higher wages are occupied by men. In the male-dominated sectors/occupations even the lower positions are highly represented by men, therefore the segregation is not that evident.

The second hypothesis (H2) claims that gender segregation in the labor market is higher in countries that belonged to the so-called 'Eastern Bloc' compared to the countries of the 'West'. We assume that the experiences/customs from the previous regime are rooted in the countries of the Eastern Bloc and the relevant institutions need more time to establish and provide gender equality in the labor market.

The third hypothesis (H3) states that unadjusted gender pay gap is positively associated with female labor participation rate. This hypothesis is based on theoretical background saying that self-selection problem occurs in labor markets leading to women rather staying out of the labor market to take care of their households.

The fourth hypothesis (H4) claims that unadjusted gender pay gap is positively associated with education levels. We believe that the better the education, the higher the return on education for men in comparison with women leading to widening the gender pay gap. Women have a tendency to have on average higher education, but their fields of study further provide lower paying jobs than men's.

The fifth hypothesis (H5) states that relationship between unadjusted gender pay gap and age has a concave (reversed U) shape. This hypothesis comes from the fact that women tend to have more interruptions from the labor market than men which cause them to lose years of experience and skills in the labor market therefore throughout life-cycle the gender pay gap rises and declines in the later life stages.

The sixth hypothesis (H6) claims that gender pay gap is higher in female-dominated sectors than in male-dominated sectors. This hypothesis is highly intertwined with the first hypothesis (H1) suggesting that if this hypothesis is confirmed then strong glass ceiling and sticky floor effect exists.

The seventh hypothesis (H7) states that gender pay gap is higher in high-skilled occupations than in low-skilled occupations. Since skill requirement is strongly positively correlated with education attained the gender pay gap should be higher in high-skilled occupation. Moreover, men and women in lower-skilled occupation tend to be considered as a perfect substitute in the labor market meaning that it is easier to replace men for women and vice versa, therefore gender pay gap in these occupations is assumed to be lower.

The eighth hypothesis (H8) claims that individual characteristics (e.g., age, experience, education, etc...) reduce, on average, the gender pay gap to a greater extent than labor market characteristics.

The ninth hypothesis (H9) states that the personal and labor market characteristics of individuals (the explained part of the gender pay gap) in the labor market have a greater influence on the gender pay gap in comparison with other factors (the unexplained part of the gender pay gap). If employees had similar individual characteristics and labor market characteristics would be alike across the labor market, then gender pay gap would fall by more than 50 % meaning that influence of unobservable factors (e.g., discrimination) would account for less than half of the gender pay gap.

Country selection

The objects of this thesis are the labour markets in selected European countries. Concretely, we pay attention to 22 EU countries (Belgium, Bulgaria, Czechia, Germany, Denmark, Estonia, Greece, Spain, Finland, France, Croatia, Hungary, Italy, Lithuania, Latvia, Netherlands, Poland, Portugal, Romania, Sweden, Slovenia and Slovakia) and Norway and United Kingdom. As mentioned before, the aim of the thesis is to look at the aspects of the gender segregation in the labour market. Wide selection of the countries allows us to capture these aspects in the European level context. Using only a small group of countries might cause a miss of the bigger picture of transnational differences in the gender segregation. In terms of the structure of the economy, the labor market, and the size of the gender pay gap, the chosen countries are indicative of the significant heterogeneity in Europe. This sample includes different types of capitalism but also countries that survived political transformation (Czechia,

Estonia, Croatia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia and Slovakia) or joined European Union later than other countries. These aspects allow us to capture the differences in the labour markets of these countries. For the greater heterogeneity, we included Norway and United Kingdom in the countries selection even though it is not a member of European Union. Data for United Kingdom, however, are dated up to year 2018, when United Kingdom still was a member of the European Union. Countries not included in this thesis, although members of the European Union (Austria, Cyprus, Ireland, Luxembourg and Malta), are omitted due to data unavailability.

3 Methodology and methods of investigation

This dissertation thesis employs both quantitative data from wide range of scientific sources and qualitative approach, which is based on the analysis of documents. The research's nature is based on developing a hypothesis, and it is focused on examining, scientifically processing and quantifying the various aspects and measures in order to recommend potential solutions for reducing gender segregation in the labor market. In order to provide background knowledge on the subject, the perspectives on gender equality and gender segregation on the labor market were researched and built upon. An overview of the problem at the European level was studied in order to understand the scope of the problem. The issue's investigation at the European level is provided by both theoretical and empirical data. The materials examined comprise various documents and research studies which have been conducted, and they come from both academic and European Union sources. To have a better understanding of the problem of gender segregation in the labor market, the thesis describes gender indicators. Additionally, it examines the problem from a gender point of view at the European level. Studies use gender as the fundamental component of gender relationships as the basis for their analytical category.

Indicators of segregation

We will use the collected data to calculate individual indicators of horizontal and vertical gender segregation in the labor market, which are based on scientific literature on this topic. In practice, the most commonly used indicators for determining the occurrence of segregation are the following:

- representation (distribution) of women in sectors and occupations, etc.,
- representation (distribution) of men in sectors and occupations, etc.,
- concentration of women in individual sectors and occupations, i.e., share of women in sectors or occupations in the total number of working women,
- concentration of men in individual sectors and occupations, i.e., share of men in sectors or occupations in the total number of working women.

Indexes

Common indicators that measure gender segregation in the labor market are indexes of segregation explained in further lines. In this thesis, we use three different indexes to measure gender segregation. First index is called the Index of Dissimilarity (ID). The concept behind

the Index of Dissimilarity (ID) is that segregation is shown by a distinct distribution of men and women across occupational categories. Simply speaking, the less segregation, the more equal the distribution. The absolute difference in the distribution of men and women across sectors or occupations is quantified by the Index of Dissimilarity. The Index of Dissimilarity is computed as follows:

$$ID = \frac{1}{2} * \sum_i \left| \frac{M_i}{M} - \frac{F_i}{F} \right| \quad (1)$$

Where: M represents the total number of men in employment, M_i is the number of men in occupation i , F is total number of women in employment, F_i is the number of women in occupation i .

According to the mathematical equation, the ID-index is equal to 0 (0%) in case of complete equality (where women's employment is distributed identically to men's throughout occupations – total equality) and 1 (100%) in case of complete dissimilarity (where women and men are in different occupational groups – total segregation). The ID-index can be seen as the percentage of the workforce (in employment) that would need to change jobs to end segregation, taking into account the disparity between the employment of men and women. Only when the dissimilarity changes may the ID indication change. Index values between 0 and 0.3 indicate low segregation, values between 0.31 and 0.60 indicate moderate segregation, and values between 0.61 and 100 indicate a high level of segregation (Massey and Denton, 1993)¹⁶³.

The ID has some methodological flaws despite its widespread use. The index is particularly sensitive to how many categories are employed in its computation (Blackburn et al., 2001)¹⁶⁴. For instance, the number of occupations will increase the values of the ID. This results in evident difficulties when attempting to compare the level of occupational segregation using a crude measure of the ID across nations with various systems for classifying occupations or in the case of time-series analyses when a particular classification system includes new occupations (Isaza Castro and Reilly, 2020)¹⁶⁵. The limitation of the computation to a few categories is one method used in the literature to overcome this issue, as is used in this thesis.

¹⁶³ Massey, D. S., & Denton, N. A. (2019). American apartheid: Segregation and the making of the underclass. In *Social stratification* (pp. 660-670). Routledge.

¹⁶⁴ Blackburn, R. M., Brooks, B., & Jarman, J. (2001). The vertical dimension of occupational segregation. *Work, Employment and Society*, 15(3), 511-538.

¹⁶⁵ Isaza Castro, J. G., & Reilly, B. (2020). Segregación ocupacional por género: Un análisis empírico de la Colombia urbana (1986-2004). *Equidad y Desarrollo*, 1(35), 9-41.

The ID's equal weighting of all occupations regardless of their proportion in overall employment is another drawback (Silber, 1989)¹⁶⁶. The heterogeneity of the relative weights of the occupations has been taken into account with different measures that may be more appropriate. These metrics specifically benefit from the fact that the ID initially derived from the idea of the segregation curve, which is a graphical depiction of the cumulative proportions of female and male workers in each occupation (Deutsch et al., 1994)¹⁶⁷.

The second index used in this thesis is the Moir and Selby-Smith segregation indicator (MSS Index) (Moir and Selby-Smith, 1979)¹⁶⁸. The idea behind the Index is that segregation occurs when there is a disparity between the percentage of women in the workforce and the percentage of women in various occupational categories. MSS Index is computed as follows:

$$MSS = \sum_i \left| \frac{F_i}{F} - \frac{N_i}{N} \right| \quad (2)$$

The MSS-indicator can be reformulated as:

$$MSS = \frac{M}{N} \sum_i \left| \frac{M_i}{M} - \frac{F_i}{F} \right| = 2 * \frac{M}{N} * ID \quad (3)$$

Where: M represents the total number of men in employment, M_i is the number of men in occupation i , F is total number of women in employment, F_i is the number of women in occupation i , N is the total number in employment, N_i is the total number in occupation i and ID is the Index of Dissimilarity.

The percentage of the workforce (employed) that would have to change jobs in order to end segregation is represented by the MSS Index. The less segregation, the more occupations are distributed equally among men and women. However, if the proportion of men working lowers, segregation will also decline. The MSS-index is computed by multiplying the ID by 2 and the percentage of male employees. As long as the male employment share is higher than the female employment share, the MSS-index will be higher than the ID-index. The MSS-index equals the ID-index in the exceptional scenario where women's proportion of employment is equal to men's share. This demonstrates that the two indices will move closer to parity if the proportion of women in the workforce increases and approaches that of males. One of the main

¹⁶⁶ Silber, J. G. (1989). On the measurement of employment segregation. *Economics Letters*, 30(3), 237-243.

¹⁶⁷ Deutsch, J., Flückiger, Y., & Silber, J. (1994). Measuring occupational segregation: Summary statistics and the impact of classification errors and aggregation. *Journal of Econometrics*, 61(1), 133-146.

¹⁶⁸ Moir, H., & Smith, J. S. (1979). Industrial segregation in the Australian labor market. *Journal of industrial Relations*, 21(3), 281-291.

drawbacks of the MSS index is that it can have different values depending on whether it is used to assess the proportion of males relative to the overall proportion of men or the proportion of women relative to the overall proportion of women (Emerek et al., 2003)¹⁶⁹.

The third index we use in this thesis is the standardised or Karmel and MacLachlan index (KM Index) (Karmel and MacLachlan, 1988)¹⁷⁰. It is founded on the idea that segregation refers to a distinct distribution of men and women across occupations, which basically means the less segregation, the more equal the distribution of men and women across occupations. Although similar to previous indexes, the Karmel and MacLachlan Index is different in the fact, that it accounts for the disparities in the employment of men and women. It is an indicator of the percentage of people who would need to shift jobs to maintain the same distribution of jobs between men and women without changing the occupational structure (Isaza Castro and Reilly, 2020)¹⁷¹. The Karmel and MacLachlan Index is computed as follows:

$$KM = \frac{1}{N} * \sum_i \left| \left(1 - \frac{M}{N}\right) * M_i - \frac{M}{N} * F_i \right| \quad (4)$$

The KM Index can be rewritten to show the relation between indexes as follows:

$$KM = \frac{F}{N} \sum_i \left| \frac{N_i}{N} - \frac{F_i}{F} \right| = \frac{F}{N} * MSS = 2 * \frac{M}{N} * \frac{F}{N} * ID \quad (5)$$

Where: M represents the total number of men in employment, M_i is the number of men in occupation i , F is total number of women in employment, F_i is the number of women in occupation i , N is the total number in employment and N_i is the total number in occupation i and MSS is the Moir and Selby-Smith Index.

The Index ranges between 0 in the case of complete equality and 0.5 in the case of perfect inequality. The KM Index can be interpreted as the percentage of the workforce (employed) that would need to shift jobs in order to end segregation, taking into account the proportions of male and female occupations. Similarly, to Index of Dissimilarity and Moir and Selby-Smith Index. Major drawback of this index is that it is dependent on the female share of employment. Segregation for this index will increase for an increasing female share of

¹⁶⁹ Emerek, R. et al. 2003. Indicators on gender segregation. Rapport, CETE, Faculdade de Economia, Universidade do Porto.

¹⁷⁰ Karmel, T., & MacLachlan, M. (1988). Occupational sex segregation—increasing or decreasing?. *Economic Record*, 64(3), 187-195.

¹⁷¹ Isaza Castro, J. G., & Reilly, B. (2020). Segregación ocupacional por género: Un análisis empírico de la Colombia urbana (1986-2004). *Equidad y Desarrollo*, 1(35), 9-41.

employment, as the function $M/N * F/N$ is increasing for an increasing female share of employment (F/N) as long as this share is less than a half (Emerek, 2003)¹⁷². A change in the index may result from a shift in the degree of dissimilarity or from a shift in the percentage of employed women — ultimately from a combination of the two. However, if there is less disparity and more women employed, there may be a higher level of segregation.

Both indicators and indexes of gender segregation were computed using Labor Force Survey 2020 dataset.

Unadjusted and Adjusted Gender Pay Gap

A frequently used indicator to assess the disparity in wages between men and women is the gender pay gap. In essence, it illustrates how much less money women make than men. The gender pay gap is the difference between the hourly wages earned by men and women in the labor market, expressed as a percentage of men's wage (Blau and Kahn, 2003)¹⁷³. In its simplest form it is called “Unadjusted Gender Pay Gap” and it is measured as follows:

$$\text{Gender Pay Gap} = \frac{\text{Men's average hourly wage} - \text{Women's average hourly wage}}{\text{Men's average hourly wage}} * 100 \quad (6)$$

Econometrically it can be computed as follows:

$$\ln(W_t) = \beta_0 + \beta_1 \text{Gender}_i + \varepsilon_i \quad (7)$$

Where: W_t is average hourly wage, β_1 is a coefficient to be estimated representing unadjusted gender pay gap, Gender_i is a dummy variable for women being equal 1 and 0 for men and ε_i is the error term.

Unadjusted Gender Pay Gap is frequently used in the inequality literature for international comparisons of the extent of gender inequality across the countries. However, it is not appropriate indicator of the gender pay gap as it does not consider differences in individual and labor market characteristics that may explain part of the earnings, therefore unadjusted. Despite this fact, sectoral and occupational gender segregations, among others, can account for some of the wage disparity between men and women. As a result, the unadjusted gender pay gap is a very complicated indicator that takes into account both the effects of sectoral and occupational gender segregation in the labor market as well as the potential discrimination

¹⁷² Emerek, R. et al. 2003. Indicators on gender segregation. Rapport, CETE, Faculdade de Economia, Universidade do Porto.

¹⁷³ Blau, F. D., & Kahn, L. M. (2003). Understanding international differences in the gender pay gap. *Journal of Labor economics*, 21(1), 106-144.

between men and women in the sense of "unequal compensation for equal work" (European Commission, 2018)¹⁷⁴.

More complete understanding explanation of the differences between men and women provides the Adjusted Gender Pay Gap. The Adjusted Gender Pay Gap accounts for the differences in individual (e. g. age, education, tenure, etc.) and labor market characteristics (e. g. occupation, sector, firm size, etc.). The adjusted gender pay gap provides a much more accurate comparison by measuring the difference between men and women with the same characteristics. The adjusted gender pay gap is computed as follows:

$$\ln(W_t) = \beta_0 + \beta_1 Gender_i + \beta_2 X_i + \varepsilon_i \quad (8)$$

Where: W_t is average hourly wage, β_1 is a coefficient to be estimated representing adjusted gender pay gap, $Gender_i$ is a dummy variable for women being equal 1 and 0 for men, β_2 is a coefficient to be estimated representing returns on individual and labor market characteristics, X_i is a vector of explanatory variables (individual and labor markets characteristics) and ε_i is the error term.

This equation is in the literature often called Mincerian earnings function (Mincer, 1974)¹⁷⁵. It became common practice to account for potential disparities between the log hourly wages of men and women by including gender as an explanatory variable of the wage rate in the Mincerian earnings function. This equation has become a cornerstone of empirical research on earnings determination (Lemieux, 2006)¹⁷⁶.

Oaxaca-Blinder decomposition

Researchers have created a number of techniques to examine a gender pay gap over the years. Decomposition methods have emerged as the most widely used techniques, beginning with the ground-breaking work of Oaxaca (1973)¹⁷⁷ and Blinder (1973)¹⁷⁸. Their fundamental technique is to divide the observed wage difference into various components and give each one an economic meaning. This method allows for the separation and evaluation of the impact

¹⁷⁴ European Commission. 2018. Adjusted gender pay gap. Item 4.3. Meeting of the European Directors of Social Statistics. Luxembourg.

¹⁷⁵ Mincer, J. (1974). Schooling, Experience, and Earnings. Human Behavior & Social Institutions No. 2.

¹⁷⁶ Lemieux, T. (2006). Increasing residual wage inequality: Composition effects, noisy data, or rising demand for skill?. American Economic Review, 96(3), 461-498.

¹⁷⁷ Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. International Economic Review, 14(3), 693-709.

¹⁷⁸ Blinder, A. S. (1973): Wage discrimination: Reduced form and structural estimates. Journal of Human Resources, 8(4), 436-455.

factors driving the wage difference in terms of the size of their relative contributions to the overall wage disparity. According to Boll and Lagemann (2018)¹⁷⁹, the individual approaches diverge in two ways. First, the aggregate gap itself is first defined in many ways. For example, the traditional Oaxaca-Blinder decomposition concentrates on the difference in the average hourly wages of male and female workers. Other methods involve comparing women and men at various wage quantiles (Nicodemo, 2009¹⁸⁰; Landmesser et al., 2020¹⁸¹). Secondly, lots of decomposition methods are preferred by researchers. The pioneering Oaxaca-Blinder technique involves performing a static decomposition of the gap into a part explained by variations in worker characteristics or labor market characteristics and a part that is left unexplained. Juhn et al. (1993)¹⁸² instead suggested breaking down changes in the wage gap over time into parts resulting from gender-specific causes and parts resulting from changes in the general level of wage disparity. Additionally, different semiparametric methods have been created and used (DiNardo et al., 1996¹⁸³; Firpo et al., 2007¹⁸⁴).

We prefer to continue with the original Oaxaca-Blinder model for our calculations because of several reasons. Firstly, how frequently it is used in official data and secondly because of how straightforward it is. First, we determine the gender disparity in average hourly wages for the entire sample as well as at the national level. Afterwards, these gaps are decomposed into explained and unexplained components using the Oaxaca-Blinder method. In this procedure, the gender inequalities in wage levels are explained by a number of worker variables found in our dataset. The composition of the explained portions is then examined and contrasted across nations, and the role of the qualities of a single worker in the wage difference is studied.

Equation (9), where $\ln(W_i)$ is the log of the hourly wage of person i and Gender is a dummy variable taking a value of 1 for males and 0 for females, shows straightforward calculation of simple regression model to compute the unadjusted gender pay gap. The coefficient β_1 measures the unadjusted gender pay gap. The unexplained portion of the gender

¹⁷⁹ Boll, C., & Lagemann, A. (2018). Gender pay gap in EU countries based on SES (2014). Luxembourg, Publication Office of the European Union, 10

¹⁸⁰ Nicodemo, C. (2009). Gender pay gap and quantile regression in European families.

¹⁸¹ Landmesser, J. M., Orłowski, A. J., & Rusek, M. A. (2020). Gender Pay Gap Across the Income Distribution: Analysis for the EU. *Acta Physica Polonica, A.*, 138(1).

¹⁸² Juhn, C., Murphy, K. M., & Pierce, B. (1993): Wage inequality and the rise in return to skill, *Journal of Political Economy*, 101(3), 410-442.

¹⁸³ DiNardo, J., Fortin, N. M. & Lemieux, T. (1996): Labor Market Institutions and the Distribution of Wages, 1973-1992: A Semiparametric Approach. *Econometrica*, 64(5), 1001-1044.

¹⁸⁴ Firpo, S., Fortin, N. M. & Lemieux, T. (2007): Unconditional Quantile Regressions, Technical Working Paper 339, National Bureau of Economic Research.

pay gap is described by the error term (ε_i), which includes all factors on the gender pay gap that are not captured by the observable variables. However, as we have stated, such a gender pay gap would omit crucial information regarding how individual and labor-market factors influence the wage disparity.

$$\ln(W_t) = \beta_0 + \beta_1 \text{Gender}_i + \varepsilon_i \quad (9)$$

Blinder (1973) and Oaxaca (1973) are responsible for developing the first and most extensively used decomposition method which analyses the gender pay gap. The Oaxaca-Blinder-decomposition is a two-step estimation procedure. There are a number of factors that affect hourly wages, and to get an accurate picture of them, we look separately at their performance in terms of how they affect men and women. There are separate wage regressions for men and women. In a log-linear model, wages are regressed on a set of explanatory factors. These include various individual and job-related factors like age, education, experience, and occupation. In the literature, these characteristics are also known as "endowments" as they are seen as observable indicators of productivity differences that partly explain the pay gap. Formally, the regression equations are as follows:

$$\ln(W_{i,m}) = \beta_0^m + \sum \beta_1^m X_1^m + \varepsilon_{i,m} \quad (10)$$

$$\ln(W_{i,f}) = \beta_0^f + \sum \beta_1^f X_1^f + \varepsilon_{i,f} \quad (11)$$

where $\ln(W_{i,m/f})$ is the log of the hourly wage of person i and $X_1^{m/f}$ is a vector of explanatory individual and job-related variables of person i . Estimated coefficients ($\beta_1^{m/f}$) from equations (10) and (11) are in the next step used to decompose the gender difference in average wage. Decomposition is conducted by estimating the following equation (Oaxaca, 1973; Blinder, 1973):

$$\overline{\ln(W_m)} - \overline{\ln(W_f)} = (\bar{X}^m - \bar{X}^f)' \varphi_1^m + (\varphi_1^m - \varphi_1^f) \bar{X}^f + (\beta_0^m - \beta_0^f) \quad (12)$$

Where $\ln(W_m)$ and $\ln(W_f)$ are the observed averages of log hourly wages of men and women. \bar{X}^m and \bar{X}^f are the individual averaged characteristics. φ_1^m and φ_1^f are estimated coefficients from wage equations (10) and (11). φ_1^m represents explained part of the gender pay gap. In terms of economics, this refers to the portion of the wage gap that may be attributed to variations in observed endowments between genders. The female endowments serve as the weighting factors for the second component (\bar{X}^f), which is the weighted sum of gender differences in estimated coefficients. It identifies the portion of the gap that results from the

fact that male and female workers receive different market returns on the same endowment. More specifically, it assesses how the wage difference would alter if rewards predicted for men were applied to female endowment. Last part represents the constant that captures all other unobservable predictor of the gender pay gap, like institutional settings.

Very important thing to state is that this approach does not include selection correction. Heckman (1979) developed estimating techniques that account for selection into the labor market. We believe that this issue is important since it's possible that men and women are chosen for jobs differently, which could lead to imprecisely estimated earnings. However, Structure of Earnings Survey data do not include variables needed to use for selection correction, like number of children or marital status. We conclude by saying that the earnings of those who are employed are the only subject of our analysis. The whole analysis is conducted in statistical programme STATA 13.

Heckman selection model

When estimating the wage equation (10 and 11), we are interested in how various elements — such as individual characteristics (age, education, experience, etc.) or labor market characteristics (occupation, sector of activity, firm size, etc.) — affect the potential earnings of a workforce member. We consider the pay offer to be the current wage for those who are in the labor force. Problem occurs with those who are not in the labor force since we cannot observe their wage (being equal 0). Using only the sample of employed workers could result in biased estimations of the parameters in the wage equation since being employed may be connected with the unobservables that impact the wage. The circumstance is also referred to as incidental truncation (Avlijaš et al., 2013)¹⁸⁵. This means that the result of one variable (employment) prevents us from observing the dependent variable (wage).

The main issue with estimating the wage equation is that we are not observing the whole population, when regressing salaries on labor characteristics for those who are employed. If those who are not in the labor force were employed, their pay might be higher than those who are. It is also a possible explanation of why they are not in employment at all. As a result, the estimation results of the wage regression suffer from sample selection bias, and we are likely to obtain biased results when estimating the coefficient of returns to gender, individual characteristics and labor market characteristics. The interpretation of these results needs to be

¹⁸⁵ Avlijaš, S., et al. (2013). Gender pay gap in the Western Balkan countries: evidence from Serbia, Montenegro and Macedonia. FREN-Foundation for the Advancement of Economics.

cautious as it represents only employed part of the workforce, therefore can not be interpreted for the whole workforce (if interpreted for the whole workforce then the results are considered biased).

Heckman (1979)¹⁸⁶ developed a solution for this problem – Selection model. The selection model allows for the possibility that entry into the labor force is not randomized and that the factors influencing observed wages are not completely unrelated to whether an individual chooses to work or not. The wage equation and the selection equation are the two equations that make up the model. The wage equation is similar to the equation (10 and 11) and consists of dependent variable log of hourly wages regressed on individual and labor market characteristics. If we add the inverse Mills ratio as an additional regressor to the wage equation to account for any selectivity in the sample of workers, we can consistently estimate the coefficients in the wage regression. However, to calculate the inverse Mills ratio, estimation of the probit regression as a first stage determining labor force participation is required due to the fact that individuals who are not working do not have their wages. Besides the factors used in analysis as explanatory variables the labor force participation is influenced also by characteristics of a household. For example, if the person has dependent children or if a person lives alone or with spouse. Omitting these factors would lead to omitted variable bias.

The wage equation might be estimated unbiasedly and the selection model disregarded under circumstance that entry into the labor force is random. Unfortunately, this is not the case, and the wage equation needs to be corrected by adding a regressor from first stage probit regression (inverse Mills ratio). If not included, the estimation findings are biased since we have effectively removed a variable that is linked with other explanatory factors present in the wage equation.

Formally, the wage equation could be written as follows:

$$\ln(W_{i:m}^*) = \beta_0^m + \sum \partial_1^m X_1^m + \varepsilon_{i;m} \quad (13)$$

$$\ln(W_{i:f}^*) = \beta_0^f + \sum \partial_1^f X_1^f + \varepsilon_{i:f} \quad (14)$$

Where: $W_{i:m/f}^*$ is the log of hourly wage of men and women and is not observed for people who are not working (hence the *). $\beta_0^{m/f}$ is the intercept. $X_1^{m/f}$ is the vector of individual

¹⁸⁶ Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica: Journal of the econometric society*, 153-161.

and labor market characteristics. $\partial_1^{m/f}$ is a vector of the coefficients to be estimated. $\varepsilon_{i,m/f}$ is the error term.

The selection equation is a probit regression determining labor force participation, specifically the probability of being employed. Formally, the selection equation could be written as follows:

$$E_i = Z_i' \psi_m + u_i \quad (15)$$

Where: E_i is equal 1 if person is employed and 0 if person is not. Z_i' encompasses the variables in $X_1^{m/f}$ plus variables that determine the decision to participate, but not the wage directly. ψ_m is a vector of the coefficients to be estimated. u_i is the error term.

The set of explanatory factors included in the wage regression must be a subset of the set of explanatory variables included in the probit regression. The selection equation must contain at least one element that is not present in the wage equation, and any variable that is used as an explanatory variable in the wage regression should also be used in the selection equation (Wooldridge, 2009)¹⁸⁷. In this thesis as an exclusion-restriction, we use variables such as gender, age, education, number of children, marital status of a person and an information if the person lives alone or with someone (cohabiting of a person).

The Heckman's procedure used to estimate unbiased wage equation is as follows:

1. Estimate the selection (15) equation by maximum likelihood in order to obtain estimates of ψ_m . For each observation in the selected sample compute a fitted value of the index function or the latent variable $Z_i' \psi_m$. Then we compute the inverse Mills ratio as a function of

$$Z_i' \psi_m: \rho_i = \frac{\varphi(Z_i' \psi_m)}{\omega(Z_i' \psi_m)}.$$

2. Include ρ_i in a regression of $\ln(W_{i,m/f})$ on $X_1^{m/f}$ in order to get consistent estimates of $\partial_1^{m/f}$.

Because of its relative simplicity and availability in many statistical packages, the Heckman two-step estimation approach has been frequently used in empirical research. It requires a simple probit estimation followed by least squares.

¹⁸⁷ Wooldridge, Jeffery M. (2009). *Introductory Econometrics: A Modern Approach*. Cincinnati, Ohio: South-Western, Thomson Learning.

Additional techniques

Since the analysis will focus on labor markets in several European countries, the comparison method will also be used. This method will allow us to compare the past as well as the current state of the issue of gender segregation between the countries of the European Union and identify those where gender segregation is the main problem.

In addition to statistical methods, logical research methods will also be used to a large extent in this dissertation. Using the abstraction method, we can obtain essential information from available sources, which will result in the use of only data essential for this research. The method of inductive reasoning serves to generalize the acquired knowledge, which we found out after performing statistical analysis or when investigating phenomena. The synthesis method is used to define selected parts based on the obtained information on the given issue. At the end of the thesis, the deductive reasoning is used, which serves to draw conclusions from the analysis carried out in the work and the statements that result from them.

Data

In this thesis, we use data from various European surveys including Structure of Earnings Survey (SES), European Union Statistics on Income and Living Conditions (EU-SILC) and Labor Force Survey (LFS). Data from the World Bank DataBank were also used.

The Structure of Earnings Survey (SES), which is conducted every four years, offers standardized structural data on gross earnings, hours worked, and annual days of paid vacation time for the entire EU. This extensive data set serves as a valuable data source for both research and policy-making. The SES is a large enterprise sample survey that offers precise information on the links between an employee's wage and personal attributes (such as their sex, age, education, occupation, tenure, etc.) and information about their employer (such as their firm size or economic activity). Enterprises surveyed in SES have at least 10 employees meaning that very small enterprises are excluded. Enterprises are from NACE sections B-S. Section O (Public administration and defence and Compulsory social security) is often excluded in research because of data unavailability. In our research using SES dataset, we also exclude section O because it is not available for our examined the countries in this thesis.

Explanatory variables used in this thesis for SES dataset are described in the next lines. Individual characteristics were measured by age and education. Exact age of each individual is not available in SES, but different age groups are. The youngest group consist of 14-19 years

old people. The oldest includes people 60+. Education is divided into four groups based on education attained - primary (ISCED 0-2), secondary (ISCED 3-4) and tertiary divided into two groups according to the degree (Bc. - ISCED 5-6 and MSc - ISCED 7-8). As for labor market and job-related characteristics, hours worked, contract type, tenure, size of the enterprise, occupation (ISCO-08) as well as NACE classification of the enterprise were considered. Exact hours worked are not available, therefore this variable is categorical, dividing employees into two groups – those who work <60 % of full-timer's workload and those who work 60-99 % of full-timer's workload. Contract type is a dummy variable with “1” for temporary contract and “0” otherwise. Firm tenure is split into four time spans (0-1 years, 2-4 years, 5-14 years, >14 years). Firm size is divided into groups according to the number of employees (1-49, 50-249, 249+). Occupational groups are identified based on the ISCO-08 classification at the one-digit-level, distinguishing between 9 different groups. The branch of the enterprise is assigned based on NACE-Rev.2 classification, distinguishing between 17 different sectors. We include country fixed effects to the wage regressions in the estimations based on the cross-country sample, which capture unobserved heterogeneity between countries. Dataset includes 23 European countries.

The EU-SILC survey is developing into the most significant source of data on income inequality, poverty, and well-being in Europe because of its broad scope and harmonization. Eurostat harmonizes the survey's preparation and processing making the statistics an appropriate source for cross-national comparisons. The results from this extensive survey can be used for a variety of scientific fields. Income inequality, poverty, deprivation, and similar topics are frequently covered in studies that use raw data from the EU-SILC survey.

For EU-SILC dataset the variables are very similar to SES variables, but there are small differences. Firstly, we only state the differences and not whole variables classification since it is the same as for SES. Education levels are divided only into three groups: Primary (ISCED 0-2), Secondary (ISCED 3-4) and Tertiary (ISCED 5-8). Sectors of economy in the form of NACE Rev.2 classification are divided only into 12 categories. Sectors B-E are grouped into one called Manufacturing and sectors R-U are grouped into one called Art and Other Services, since the data availability is limited to these groups. Retired and permanently disabled respondents have been excluded from the research. Due to lower data availability the dataset includes only 20 European countries. The Oaxaca-Blinder decomposition technique was used for SES and EU-SILC dataset in order to compare the results for both surveys.

Among the most significant societal surveys on the general public's economic activity, Labor Force Surveys (LFS) are carried out in the majority of nations worldwide. The questionnaires are consistently carried out every three months in EU nations. Labor force surveys are standardized and cross-nationally comparable. This is primarily due to the fact that these surveys adhere to the generally accepted worldwide standards established by the International Labor Organization. Based on a number of technical and framework rules established by the European Commission, national labor force surveys are further standardized in EU nations. The main aim of the Labor Force Survey is to gather data on the labor status of the population measured in average week on the quarterly basis.

A labor force survey is a household-focused survey used to collect data on the labor market through in-person or telephone interviews. Labor force surveys are typically limited to a sample of households, the size of which mainly depends on the degree of information needed in the survey estimates. This is because including all households or individuals would clearly involve considerable expense. Participants in the survey must be private-housing residents and be at least 15 years old. Non-participants include those serving in the armed forces or the community, as well as those residing in institutions or communal homes. All EU member states, four candidate countries, and three EFTA nations participate in the EU labor force survey (EU-LFS). The main benefit of labor force surveys is the possibility of obtaining thorough data regarding the entire economy, which can be evaluated in a global context addressing society as a whole. In this thesis, we use Labor Force Survey data to compute horizontal and vertical segregation in the European countries as well as indexes of segregation.

4 Results

The main goal of this dissertation thesis is to examine, scientifically process and quantify the aspects of gender segregation in the labor market in the European countries with a closer focus on the Slovak Republic. This chapter focuses on the results of the research on the topic of gender segregation in the labor market in the European countries. First part of the chapter is aimed at analysing of the horizontal segregation in the labor market with focus on identifying of the female-dominated and male-dominated sectors and occupations. Second part is aimed at quantifying the unadjusted gender pay gap by individual (education and age) and labor market characteristics (sector and occupation). The last part focuses on adjusted gender pay gap, Oaxaca-Blinder decomposition and Heckman correction modelling of the gender pay gap.

4.1 Horizontal and vertical segregation

The concentration of men and women in certain occupations or areas of the economy is referred to as horizontal segregation. Horizontal segregation is the under- or over-representation of a certain group in sectors or professions that are not arranged according to any criterion (Bettio and Verashchagina, 2009)¹⁸⁸. Different viewpoints in both sociology and psychology have been expressed about the causes of horizontal gender segregation in the workplace. For instance, there has been discussion around gender stereotypes and how they may affect educational and job decisions (Correll, 2001¹⁸⁹; Charles and Bradley, 2009¹⁹⁰). When matched on performance, some research has indicated that guys tend to have stronger self-assessments and feelings of self-efficacy in mathematics than girls (Correll, 2001¹⁹¹; Else-Quest et al., 2010¹⁹²). According to cross-country studies, people instinctively link men rather than women with scientific professions, although the intensity of these associations is reduced in nations where the proportion of women in the scientific areas is higher (Miller et al., 2015)¹⁹³. The interaction of stereotypes with new standards of self-expression and work practices has also

¹⁸⁸ Bettio, F., Verashchagina, A., & Camilleri-Cassar, F. (2009). Gender segregation in the labor market: Root causes, implications and policy responses in the EU.

¹⁸⁹ Correll, S. J. (2001). Gender and the career choice process: The role of biased self-assessments. *American journal of Sociology*, 106(6), 1691-1730.

¹⁹⁰ Charles, M., & Bradley, K. (2009). Indulging our gendered selves? Sex segregation by field of study in 44 countries. *American journal of sociology*, 114(4), 924-976.

¹⁹¹ Correll, S. J. (2001). Gender and the career choice process: The role of biased self-assessments. *American journal of Sociology*, 106(6), 1691-1730.

¹⁹² Else-Quest, N. M., Hyde, J. S., & Linn, M. C. (2010). Cross-national patterns of gender differences in mathematics: a meta-analysis. *Psychological bulletin*, 136(1), 103.

¹⁹³ Miller, D. I., Eagly, A. H., & Linn, M. C. (2015). Women's representation in science predicts national gender-science stereotypes: Evidence from 66 nations. *Journal of Educational Psychology*, 107(3), 631.

been postulated in high-income economies. This might help explain why horizontal segregation is more pronounced in nations with high levels of financial security and economic development (Charles and Bradley, 2009¹⁹⁴; Barone, 2011¹⁹⁵).

Table 4.1 shows the distribution of men and women across whole economies by countries. First look at the table shows that there is significant segregation across sectors in each country. Based on that, we can divide the sectors into three groups. First group are industries that are male-dominated. Sectors A – E are highly overrepresented by men in comparison with women – with more than 75 % representation on average in every country. Possible explanation of this phenomenon is that these are physically intense sectors like agriculture, mining and quarrying or manufacturing. It does not come as a surprise that for example in the Slovak Republic only 3 % of employees in Mining and quarrying (B) are women. We assume that these female employees work in the offices as administrative workers. On the other hand, in Scandinavian countries (Norway and Sweden) the share of women in this industry is above average (22 %, 26 % respectively). We can attribute that to the fact, that in Scandinavian countries the Mining and quarrying more significant industry than in small country like Slovakia or Latvia, therefore more women tend to be employed there. We can easily say that this industry is highly male-dominated. One of the reasons is that many countries forbid women from working in specific positions and types of mining, notably underground mining (ILO, 2021). ILO Underground Work (Women) Convention, 1935 (No. 45)¹⁹⁶ is still in force in 68 member states until this day. The results of Elix et al. (2020)¹⁹⁷ show that women are leaving the mining industry and it is becoming even more masculine. The main reasons for quitting the sector are the belief that the work is no longer academically stimulating and the belief that there are less prospects for promotion than there are for their male co-workers.

Being male-dominated sector also applies to the Manufacturing (C) but we can find a few exceptions in this sector. For example, in Bulgaria (51:49), Lithuania (56:44) or Romania (58:42) the share of men and women proved to be almost equal. We can say something similar about Information and communication sector (J). Even though, representation in this sector is

¹⁹⁴ Charles, M., & Bradley, K. (2009). Indulging our gendered selves? Sex segregation by field of study in 44 countries. *American journal of sociology*, 114(4), 924-976.

¹⁹⁵ Barone, C. (2011). Some things never change: Gender segregation in higher education across eight nations and three decades. *Sociology of education*, 84(2), 157-176.

¹⁹⁶ Available at: <<https://bit.ly/3S49zvS>>

¹⁹⁷ Ellix, H., Farmer, K., & Kowalik, L. (2021). Why women are leaving the mining industry and what mining companies can do about it.

Table 4.1: Horizontal segregation, by sector and country (% of NACE), 2020

	BE		BG		CZ		DE		DK		EE		ES		FI		FR		GR		HR		HU		IT		LT		LV		NL		NO		PL		PT		RO		SE		SI		SK	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W		
A	67	33	71	29	76	24	68	32	78	22	75	25	77	23	73	27	72	28	61	39	68	32	73	27	74	26	68	32	76	24	72	29	78	22	61	39	68	32	59	41	79	21	58	42	80	20
B	84	16	75	25	81	19	81	19	92	8	87	13	84	16	89	11	82	18	91	9	76	24	81	19	86	14	86	14	92	8	87	13	78	22	90	10	89	11	87	13	74	26	87	13	97	3
C	75	25	51	49	66	34	74	26	71	29	61	39	72	28	74	26	71	30	72	28	66	34	65	35	74	26	56	44	61	39	77	23	74	26	68	32	60	40	58	42	76	24	70	31	67	33
D	78	22	78	22	77	23	71	29	71	29	73	27	71	29	79	21	68	32	70	30	72	28	78	22	75	25	81	19	83	17	79	21	79	21	75	25	63	37	82	18	72	28	79	21	73	27
E	84	16	72	29	76	24	81	19	76	24	83	17	77	23	79	21	79	21	79	21	82	18	79	21	83	17	71	29	66	34	76	24	79	21	77	23	78	22	77	23	80	20	79	21	82	18
F	89	11	93	7	91	9	85	15	91	10	94	6	91	9	89	11	89	11	94	6	93	7	92	8	92	8	92	8	89	11	89	11	91	9	93	7	93	7	95	5	90	10	91	9	93	7
G	56	44	45	55	44	56	47	53	58	42	42	58	50	50	53	47	55	45	57	43	45	55	48	52	58	42	48	52	38	62	56	44	56	44	44	56	52	48	44	56	57	43	46	54	41	59
H	79	21	80	20	73	27	74	26	78	22	74	26	80	20	80	20	74	26	81	19	84	16	77	23	80	20	71	29	76	24	79	21	81	19	79	21	80	20	88	12	78	22	84	16	78	22
I	58	42	38	62	45	55	46	54	49	51	31	69	47	53	32	68	52	48	55	45	46	54	44	56	51	49	29	71	24	76	50	50	44	56	34	66	41	59	38	62	52	48	37	63	41	59
J	75	25	61	39	80	20	69	31	72	28	67	33	68	32	71	30	69	31	60	40	68	32	74	26	70	31	60	40	65	35	78	22	70	30	72	28	66	34	63	37	70	30	68	32	71	29
K	53	47	27	73	46	54	50	50	56	44	39	61	47	53	45	55	44	56	52	48	29	71	43	57	53	47	38	62	29	71	64	36	51	49	39	61	57	43	32	68	49	51	37	63	39	61
L	62	38	47	53	55	45	48	52	63	37	42	58	43	57	53	47	46	54	60	40	38	62	52	48	50	50	62	38	53	47	61	39	63	37	49	51	48	52	50	50	59	41	52	48	58	42
M	52	48	34	66	51	49	49	51	58	42	42	58	51	49	57	43	54	46	52	48	44	56	48	52	54	46	45	55	35	65	60	40	58	42	46	54	44	56	41	59	58	42	52	48	41	59
N	45	55	71	29	51	49	51	49	53	47	49	51	46	54	54	46	52	48	53	47	53	47	55	45	48	52	54	46	48	52	57	43	56	44	55	45	52	48	69	31	58	42	44	56	57	43
O	51	49	53	47	54	46	47	53	48	52	46	54	57	43	46	54	45	55	63	37	53	47	44	56	65	35	50	50	44	56	54	46	50	50	48	52	59	41	66	34	40	60	46	54	48	52
P	30	70	22	78	24	76	30	70	41	59	22	78	33	67	31	69	31	69	34	66	24	76	24	76	25	75	21	79	15	85	38	62	33	67	21	79	24	76	25	75	28	72	20	80	17	83
Q	21	79	22	78	18	82	23	77	18	82	14	86	24	76	16	84	21	79	35	65	17	83	19	81	30	70	15	86	18	82	19	81	22	79	18	82	16	84	18	82	22	78	21	79	17	83
R	57	43	52	48	53	47	49	51	50	50	37	63	57	43	42	58	55	45	50	50	48	52	52	48	59	41	38	62	39	61	48	52	51	49	38	62	62	38	54	46	45	55	53	47	50	50
S	32	69	37	63	30	70	43	57	41	59	34	66	35	65	31	69	34	66	45	55	22	78	30	70	39	61	28	72	21	79	35	65	36	64	29	71	33	67	41	59	37	63	24	76	27	73
T	26	74	48	52	17	83	10	90	4	96	100	0	12	88	38	62	8	92	7	93	0	100	14	87	12	88	17	83	14	86	13	87	100	0	18	82	1	99	22	78	0	100	0	100	11	89
U	48	52	0	100	54	46	70	30	47	53	75	25	48	52	59	41	29	72	27	73	0	100	47	53	56	44		100	0	90	10	100	0	0	100	28	72	94	6	57	43	0	100	0	100	
Total	53	47	54	46	56	44	53	47	53	47	51	49	54	46	52	48	51	49	58	42	54	46	55	45	58	42	50	50	49	51	54	46	53	47	55	45	51	49	57	43	53	47	54	46	55	45

Source: LFS 2020, own calculations. Blank means missing data. A - Agriculture, forestry and fishing, B - Mining and quarrying, C - Manufacturing, D - Electricity, gas, steam and air-conditioning supply, E - Water supply, sewerage, waste management and remediation, F - Construction, G - Wholesale and retail trade, repair of motor vehicles and motorcycles, H - Transportation and storage, I - Accommodation and food service activities, J - Information and communication, K - Financial and insurance activities, L - Real estate activities, M - Professional, scientific and technical activities, N - Administrative and support service activities, O - Public administration and defence, compulsory social security, P - Education, Q - Human health services, R - Arts, entertainment and recreation, S - Other services, T - Activities of households as employers, U - Activities of extraterritorial organisations and bodies. M - Men, W - Women.

more fairly distributed, men are still dominating. Iclaves (2013)¹⁹⁸ claims that women are underrepresented in the sector, particularly in technical and decision-making positions. The main problems that prevent women from fully participating in this sector are cultural traditions and stereotypes, internal and external barriers or socio-psychological factors.

The most male-dominated sector, unsurprisingly, is the Construction sector (F) represented 91 % by men and only 9 % by women, on average. This section includes general construction and specialised construction activities for buildings and civil engineering works. Norberg and Johansson's (2021)¹⁹⁹ analysis shows that women entering the construction industry are met with gender-biased attitudes, discrimination and unrealistic demands. Galea et al. (2020)²⁰⁰ argues that informal gendered institutions obstruct women's recruitment, retention and progression in construction. She also argues that Recruitment into and within the industry is framed by male sponsorship, cultural fit and traditional education pipelines.

There are also industries, where the distribution of men and women is almost equal, being our second group. To this group belong sectors like Financial and insurance activities (K), Real estate activities (L), Professional, scientific and technical activities (M), Administrative and support service activities (N), Arts, entertainment and recreation (R) or Public administration and defence, compulsory social security (O) with the latter representing the public sector. The percentage of women working in government is closely tied to national income (Mukhtarova et al., 2021)²⁰¹. According to the widely held belief that there is a U-shaped link between female employment and country revenues up to a certain threshold, female involvement rates in the private sector grow with rising national incomes. But if income increases even more, the percentage of women working in the private sector declines (Goldin 1986²⁰²; 1995²⁰³; Jayachandran, 2021²⁰⁴). According to our results the share of women in sector O is stable throughout all observed countries, except Romania.

¹⁹⁸ Iclaves, S. L. (2013). Women active in the ICT sector: executive summary.

¹⁹⁹ Norberg, C., & Johansson, M. (2021). "Women and "ideal" women": The representation of women in the construction industry. *Gender Issues*, 38(1), 1-24.

²⁰⁰ Galea, N., Powell, A., Loosemore, M., & Chappell, L. (2020). The gendered dimensions of informal institutions in the Australian construction industry. *Gender, work & organization*, 27(6), 1214-1231.

²⁰¹ Mukhtarova, T. & Hasnain, Z., (2021). Five facts on gender equity in the public sector. Published on Governance for Development. World Bank Blogs.

²⁰² Goldin, C. (1986). Monitoring costs and occupational segregation by sex: a historical analysis. *Journal of Labor Economics*, 4(1), 1-27.

²⁰³ Goldin, C. (1995). Career and family: College women look to the past.

²⁰⁴ Jayachandran, S. (2021). Social norms as a barrier to women's employment in developing countries. *IMF Economic Review*, 69(3), 576-595.

Third group consists of sector that are female-dominated. Here belong sectors like Education (P), Human health services (Q), Other services (S) and Activities of households as employers (T). To a large extent, these are jobs in which they come into contact with people or have a certain social dimension. Regarding Education, only Denmark proved to not be totally female-dominant country with 41 % employees being men to 59 % women. All other countries have, on average, about 70+ % female employees in education systems. Women are assumed to be taking up the profession because it is believed to allow them to still take care of household duties. Women are more likely to require flexible work than men (Marbaix, 2021)²⁰⁵. Han et al. (2020)²⁰⁶ argues that male employment in education is highly positively correlated with wages in this sector and with male representation. Very similar pattern can be observed in Human health services (Q) sector. This sector is even more feminized than education sector with, on average, about 80 % of employees being women. One exception being Greece with ratio of 35:65 workers in health sector. WHO (2019)²⁰⁷ says, that women deliver global health, however, men lead it. Gender segregation in this sector is pervasive and severe. Men predominate in surgery, whereas women predominate in nursing. Despite being only about 20-30 % of employees in this sector, men predominate in senior, higher-status, and better-paid positions. Stereotypes and broader cultural gender standards support this. The gender wage gap and talent loss are caused by occupational segregation on the basis of gender (for example, with few men entering nursing). Sector Activities of households as employers (T) includes jobs like maids, cooks, waiters, valets, butlers, etc. Unsurprisingly, most of the workers in this industry are women. Only exception is Bulgaria, where the distribution is equal and Estonia, where the data is missing.

The first look at the gender segregation showed the within-sector segregation. Different look at the gender segregation across the economy is shown in Table 4.2. It shows the distribution of men and women by sector and country as a percentage of the whole economy. From this point of view, we can identify between-sectors segregation. The countries could be divided into three groups again.

²⁰⁵ Marbaix, E. (2021). Why do more females than males work in education and how can we attract more men?. Axcis. UK.

²⁰⁶ Han, S. W., Borgonovi, F., & Guerriero, S. (2020). Why don't more boys want to become teachers? The effect of a gendered profession on students' career expectations. *International Journal of Educational Research*, 103, 101645.

²⁰⁷ World Health Organization. (2019). *Delivered by women, led by men: A gender and equity analysis of the global health and social workforce*.

Table 4.2: Horizontal segregation, by sector and country (% of National Economy), 2020

	BE		BG		CZ		DE		DK		EE		ES		FI		FR		GR		HR		HU		IT		LT		LV		NL		NO		PL		PT		RO		SE		SI		SK		
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W			
A	1	1	9	4	4	1	1	1	3	1	4	2	6	2	5	2	3	1	11	10	8	4	6	3	5	2	8	4	11	4	3	1	3	1	11	8	7	3	21	20	3	1	4	4	4	1	
B	0	0	2	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	2	2	0	1	0	1	0	0	0	1	0	1	0		
C	18	7	18	20	31	20	28	11	15	8	22	14	17	8	18	7	16	7	12	6	22	14	25	18	24	12	18	14	14	9	14	5	11	4	24	15	20	14	18	18	14	5	33	17	30	18	
D	1	0	2	1	2	1	1	1	1	0	1	0	1	0	1	0	1	0	1	1	1	1	2	0	1	0	1	0	2	0	0	0	1	0	1	1	1	0	1	0	1	0	2	1	2	1	
E	2	0	1	1	2	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	3	1	2	1	2	0	2	1	1	0	1	0	1	0	2	1	1	0	2	1	1	0	2	0	1	0	
F	12	2	14	1	13	2	9	2	11	1	17	1	11	1	12	2	11	2	6	1	12	2	14	1	9	2	13	1	16	2	9	1	15	2	14	1	11	1	14	1	12	1	10	1	15	1	
G	12	11	14	20	9	14	11	14	16	13	10	15	14	17	12	11	13	11	18	19	12	17	11	15	14	14	15	17	11	18	15	14	13	12	11	18	14	13	12	20	12	10	10	15	10	16	
H	8	2	10	3	7	3	6	3	7	3	10	4	7	2	8	2	7	3	8	2	10	2	9	3	7	2	11	4	12	4	7	2	7	2	9	3	7	2	9	2	7	2	8	2	9	3	
I	4	3	4	7	3	5	3	4	3	4	2	5	6	9	2	5	4	4	8	10	5	7	3	5	5	7	1	3	2	5	4	5	3	4	1	3	5	7	2	4	3	3	2	5	3	5	5
J	5	2	4	3	5	2	5	3	6	2	6	3	4	2	7	3	5	3	3	2	4	2	4	2	3	2	3	2	5	3	6	2	5	3	4	2	4	2	2	2	8	3	5	3	5	2	
K	3	3	1	3	2	3	3	3	3	3	1	2	2	3	2	2	4	4	2	2	1	4	1	2	3	3	1	2	1	3	4	2	2	2	2	3	2	2	1	2	2	2	2	2	4	2	3
L	1	1	0	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	0	0	2	1	0	0	1	1
M	6	6	3	6	5	6	5	6	7	5	4	6	5	6	8	7	7	7	5	7	3	5	4	5	6	7	4	5	3	6	9	7	7	5	3	5	4	6	2	3	10	8	5	6	2	4	
N	5	7	5	2	2	3	4	4	4	5	3	4	4	7	5	4	5	4	2	2	3	3	3	3	5	5	4	3	3	6	5	5	4	2	2	3	3	3	2	5	4	2	3	2	3		
O	8	9	7	7	6	7	7	9	5	6	7	7	8	7	5	6	8	11	10	8	7	8	7	11	6	4	6	6	6	8	7	7	6	6	6	7	7	5	6	5	6	9	5	7	8	10	
P	5	15	2	9	3	12	4	10	7	11	4	16	4	11	5	11	5	11	5	13	3	12	3	13	3	13	5	16	3	16	5	10	5	13	4	15	4	13	2	7	7	17	3	16	2	14	
Q	6	26	2	9	2	14	6	22	6	32	2	11	4	15	6	29	6	24	4	11	2	14	2	14	4	14	2	12	2	11	6	31	8	35	3	11	3	17	2	10	6	25	3	13	2	14	
R	2	2	1	2	2	2	1	1	2	2	2	4	2	2	2	3	2	2	1	2	2	2	2	2	1	1	1	2	2	4	2	3	2	3	1	2	2	1	1	1	2	2	3	2	3	1	2
S	1	3	1	2	2	3	3	4	2	3	2	4	2	3	2	4	2	3	2	3	1	3	1	3	3	5	1	4	2	4	2	3	1	3	1	3	2	4	1	2	2	3	1	3	1	3	
T	0	0	0	0	0	1	0	1	0	0	0	0	1	5	0	0	0	2	0	1	0	0	0	0	1	7			0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0
U	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tota I	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: LFS 2020, own calculations. Blank means missing data. A - Agriculture, forestry and fishing, B - Mining and quarrying, C - Manufacturing, D - Electricity, gas, steam and air-conditioning supply, E - Water supply, sewerage, waste management and remediation, F - Construction, G - Wholesale and retail trade, repair of motor vehicles and motorcycles, H - Transportation and storage, I - Accommodation and food service activities, J - Information and communication, K - Financial and insurance activities, L - Real estate activities, M - Professional, scientific and technical activities, N - Administrative and support service activities, O - Public administration and defence, compulsory social security, P - Education, Q - Human health services, R - Arts, entertainment and recreation, S - Other services, T - Activities of households as employers, U - Activities of extraterritorial organisations and bodies. M - Men, W - Women.

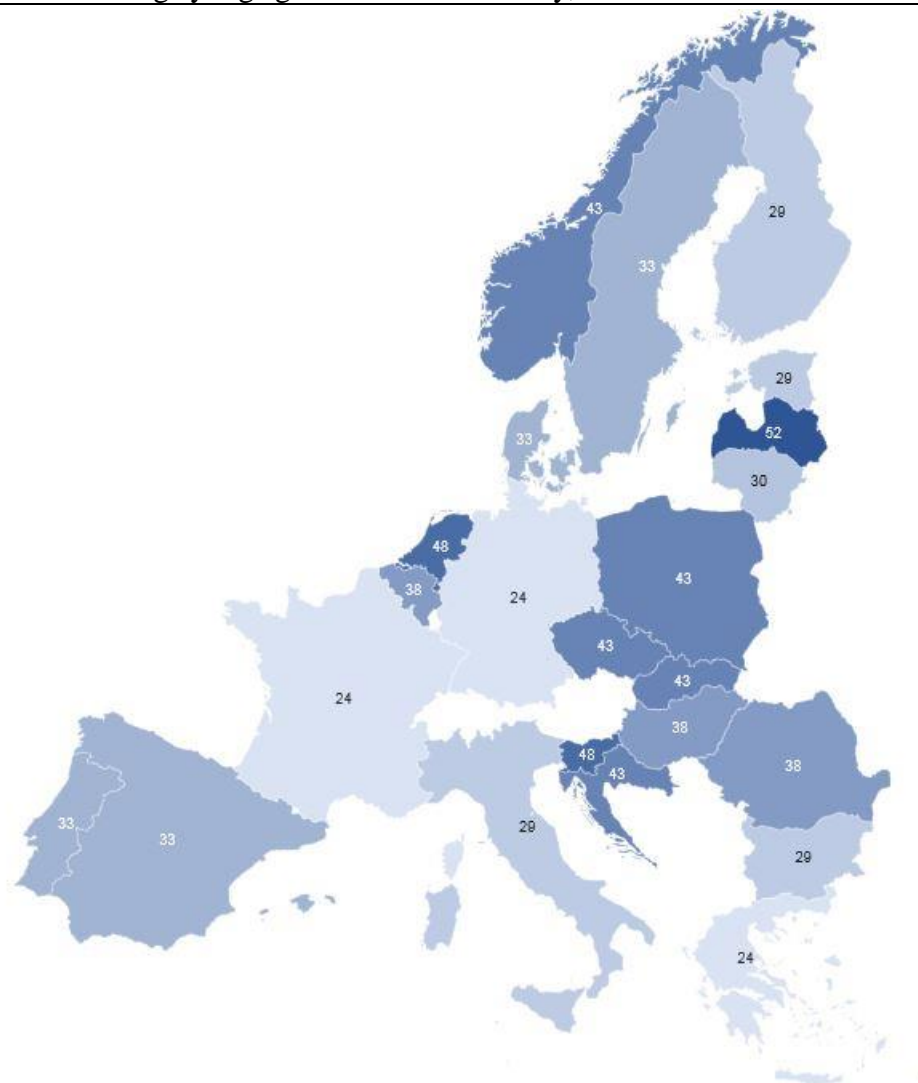
At first glance, the segregation does not seem to be so evident as in previous view. Although, even in this case there can be identified both male-dominated and female-dominated sectors. Belonging to the first group, Manufacturing (C) proved to be highly male-dominated sector with more than 20 % of the employed men working there, on average, being the most occupied sector by men. Number of women in Manufacturing sector is also quite high (about 12 %, on average), but it is not the most occupied sector within female gender. The biggest male-skewed segregation can be observed, again, in the Construction (F) sector, having employed, on average, 8 times more men than women across the whole sample. Interesting example is Romania, where 14,3 % of men work in the Construction sector but only about 1 % of women, being the most extreme case. The results for the Slovak Republic show that there is about 9 p.p. more men working in Construction than women. The men:women ratio is the most plausible in Germany but still high at about 4:1.

Second group consists of sectors, where the distribution of men and women is roughly equal. This group includes sectors like Wholesale and retail trade, repair of motor vehicles and motorcycles (G), Real estate activities (L), Administrative and support service activities (N) or Public administration and defence, compulsory social security (O).

Third group is the one, which we can call female-dominated. Education (P), unsurprisingly again, proved to be one of the most feminine sectors. The results show that there are, on average, 3 women in Education sector per 1 man. In the Slovak Republic, only 2,4 % of working men are employed in education systems in comparison with 14,2 % for women, being the country with highest gender employment gap in this sector. This situation is similar in Latvia or Slovenia. Job situation in the education labor market in Denmark seem to be the most gender equal with 6 working men per 10 women. Second most equal country in this ranking is Netherlands with employing 5 men per 10 women in education. Sector Human health services (Q) is definitely the most female-dominated sector across all observed countries labor markets. Extreme share of employed women works in Health services in Norway – 35 %, with only 8 % of men. The shares of women in this industry are quite high even in other countries. In Denmark almost 32 % of women work in this industry, 31 % for Netherlands's women and 30 % for Finland's women. Human health services seems to be a popular industry for Scandinavian women. On the other hand, for men this industry does not seem attractive since only about 4 % of men are employed there. Activities of households as employers (T) sector is totally female-dominated. The data shows that for most countries, there are less than 0,5% or no men working in this industry, being very unattractive industry for men. On the other side, very interesting

result is that in Italy almost 6 % of women work in this sector. The same applies to Spain (5 %) and Portugal (5 %). This pattern revealed that in the southern countries it is more common to work as maids, waiters, secretaries, babysitters or tutors than in other countries of Europe.

Cartogram 1: Share of highly-segregated sectors in economy, 2020



Source: LFS 2020, own calculations. Highly-segregated sectors are defined as sectors represented with at least 75 % of men or women. Share of highly-segregated sectors is computed as a percentage of highly-segregated sectors on the whole economy.

Interesting insight into the sectoral segregation between countries provides Cartogram 1. It shows share of highly-segregated sectors on a whole economy of a given country across all examined countries. We can see that former Eastern Bloc countries are suffering from higher sectoral segregation than Western countries, specifically Visegrad Group countries (Slovak Republic, Czech Republic and Hungary) show much higher segregation. Furthermore, Slovenia shows to be even more segregated, however, Latvia shows that half of sectors of its economy is highly controlled either by men or women. Western countries, like Germany or France, seem

to have about one quarter of sectors highly-segregated, a share quite high, but the lowest in our sample. Interesting results is shown for Norway, where 43 % of sectors are highly-segregated despite the reputation of equality friendly country. The results show that former Eastern Bloc countries are still far from achieving a gender neutral and desegregated labor markets but are not far from sectoral segregation levels of Western countries.

So far, our analysis has concentrated on horizontal segregation but there is also a vertical segregation. Vertical segregation is defined as inequalities in gender distribution within different levels of responsibility in the same establishment (Campos-Soria et al., 2011)²⁰⁸. When we talk about vertical segregation, we're talking about hierarchical inequality, notably the male predominance in the highest prestige jobs in both the manual and nonmanual sectors of the economy (Charles, 2003)²⁰⁹. The vertical segregation represents inequality in a labor force (or a section of one) directly. The measurement of vertical segregation reflects a country's ability to optimise female human resources (Palomba, 2006)²¹⁰. Men and women are segregated based on their occupation's typical wage and other benefits in a very evident hierarchy (Weeden et al., 2018)²¹¹. Vertical segregation means limiting promotion and career opportunities (Kacrpzak, 2015)²¹². According to Charles and Grusky (2005)²¹³, vertical gender segregation tends to be stronger in the manual sector, reflecting the stronger influence of egalitarian norms and politics on the non-manual sector.

We examine the representation of women in higher level positions using the one-digit ISCO classification, which separates the occupational structure into 10 main categories. The ISCO classification is designed to segment professions both vertically and horizontally. Legislators, senior officials, and managers, all of whom hold the very highest positions in organizations, all fall within group 1 of the ISCO categorization. Group 2 is composed of experts in many fields. For instance, the group of teaching professionals includes

²⁰⁸ Campos-Soria, J. A., Marchante-Mera, A., & Ropero-García, M. A. (2011). Patterns of occupational segregation by gender in the hospitality industry. *International Journal of Hospitality Management*, 30(1), 91-102.

²⁰⁹ Charles, M. (2003). Deciphering sex segregation: Vertical and horizontal inequalities in ten national labor markets. *Acta sociologica*, 46(4), 267-287.

²¹⁰ Palomba, R. (2006). Does gender matter in scientific leadership. in *Scientific Careers*, 133.

²¹¹ Weeden, K. A., Newhart, M., & Gelbgiser, D. (2018). Occupational segregation. *State of the Union: The Poverty and Inequality Report*, Stanford Center on Poverty and Inequality, special issue, pathways magazine. Access, 27.

²¹² Kacrpzak, A. (2015). Determinants of Vertical and Horizontal Gender Segregation in the Workplace in Poland. *Argumenta Oeconomica Cracoviensia*, (11), 63-80.

²¹³ Charles, M., & Grusky, D. B. (2005). *Occupational ghettos: The worldwide segregation of women and men* (Vol. 200). Stanford, CA: Stanford University Press.

Table 4.3: Vertical segregation, by occupation and country (% of ISCO), 2020

	BE		BG		CZ		DE		DK		EE		ES		FI		FR		GR		HR		HU		IT		LT		LV		NL		NO		PL		PT		RO		SE		SI		SK			
	M		W		M		W		M		W		M		W		M		W		M		W		M		W		M		W		M		W		M		W		M		W		M		W	
0	92	8	89	11	89	11	89	11	94	6	100	0	89	11	91	9	85	15	90	10	92	8	80	20	96	4	96	4	83	17	93	7	65	35	95	5	91	9	90	10	79	22	89	11	90	10		
100	64	36	60	40	73	27	70	30	72	28	63	37	65	35	59	41	64	36	71	29	72	28	61	39	73	27	62	38	47	53	75	25	66	34	57	43	64	36	65	35	58	42	60	40	64	36		
200	46	54	36	64	48	52	51	49	44	56	37	63	43	57	51	49	47	53	48	52	37	63	48	52	46	54	33	67	33	67	52	48	41	59	39	61	40	60	43	57	43	57	41	59	40	60		
300	52	48	51	49	57	43	46	54	57	43	46	54	62	38	44	56	50	50	49	51	56	44	43	57	60	40	45	55	42	58	48	52	59	41	50	50	58	42	48	52	57	43	53	47	52	48		
400	39	61	30	70	22	78	34	66	29	71	35	65	34	66	29	71	25	75	42	58	35	65	27	73	36	64	32	68	24	76	40	60	44	56	43	57	37	63	39	61	41	59	43	57	29	71		
500	33	67	39	61	34	66	38	62	37	63	26	74	40	60	31	69	34	66	51	49	33	67	39	61	41	59	28	72	25	75	33	67	33	67	33	67	34	66	36	64	35	65	33	67	39	61		
600	82	18	70	31	66	34	78	22	83	17	72	28	82	18	68	32	82	18	60	40	66	34	72	28	78	22	64	36	75	25	82	18	77	23	60	40	69	31	57	43	75	25	65	35	82	18		
700	94	6	74	26	89	11	90	10	94	6	90	10	92	8	91	9	89	11	92	8	92	8	90	10	90	10	78	22	81	19	90	10	94	6	89	11	84	16	80	20	92	9	90	10	86	14		
800	87	13	75	25	73	27	84	16	85	15	76	24	87	13	87	13	82	18	93	7	76	24	72	28	83	17	81	19	91	9	89	11	88	12	86	14	68	32	80	20	86	14	72	28	76	24		
900	39	61	65	35	40	60	45	55	56	44	39	61	42	58	42	58	36	64	50	50	49	51	45	55	55	45	45	55	51	49	52	48	42	58	38	62	30	71	62	38	53	47	36	64	45	55		
Total	53	47	54	46	56	44	53	47	53	47	51	49	54	46	52	48	51	49	58	42	54	46	55	45	58	42	50	50	49	51	53	47	53	47	55	45	51	49	57	43	53	47	54	46	55	45		

Source: LFS 2020, own calculations. M – Men, W – Women. 0 - Armed Forces, 100 – Managers, 200 – Professionals, 300 - Technicians and associated professionals, 400 - Clerical support workers, 500 - Service and sales workers, 600 - Skilled agricultural, forestry and fishery workers, 700 - Craft and related trades workers, 800 - Plant and machine operators and assemblers, 900 - Elementary occupations

both university professors and elementary and pre-primary instructors on the 1-digit level, making it considerably more diversified (Emerek et al., 2003)²¹⁴. Using the group at this level becomes quite challenging since it includes professions with a range of educational backgrounds. Group 3 consists of associate professionals and technicians. In terms of educational attainment and employment responsibilities, the group is likewise highly diverse.

Table 4.3 provides an insight into vertical segregation by occupation and country. The number of women in Armed Forces (0) is rather scarce but understandable. Although, on average, there are about 10 % of armed forces being women. One exception is Estonia, where the whole army consists of men. Perepolkin et al. (2021)²¹⁵ argues that to solve gender inequalities in the armed forces it is required to solve problems like unprofessional behaviour, bullying or sexual harassment and assaults on women. Much more interesting is the group of Managers (100), which directly speak of vertical segregation. This group can be considered as a high-skilled and high-educated group of workers. The vertical segregation is the strongest in Netherlands with only 25 % of managers being women. The Slovak Republic could be marked as average with 36 %. On the other side of the spectrum lies Latvia with 53 % of managers being women, being the only country in our sample where women are slightly more represented in managerial positions than men. Interesting results are shown for Scandinavian countries, which are known for their strong gender equality policies (Melby and Carlsson Wetterberg, 2009²¹⁶; Borchorst, 2009²¹⁷). There are only 28 % female managers in Denmark and 34 % in Norway. Finland (41 %) and Sweden (42 %) are showing better equality results but are still far from being gender equal.

The next group indicating vertical segregation is Professionals (200). This group can be also considered as a high-skilled and high-educated group of workers. The results are showing that workers in this group are more equally distributed than Managers (100). Women are more represented in this group in majority of countries. This fact could be attributed to the role of education sector since in many countries university professors are considered as professionals. The results are still interesting despite the drawbacks. There are few countries, where

²¹⁴ Emerek, R., Figueiredo, H., González, P., Gonäs, L., & Rubery, J. (2003). Indicators on gender segregation. Rapport, CETE, Faculdade de Economia, Universidade do Porto.

²¹⁵ Perepolkin, S. M., Boniak, V. O., Zavhorodnii, V. A., Syroid, T. L., & Filianina, L. A. (2021). Gender equality in states' armed forces: Comparative and legal study. *Linguistics and Culture Review*, 5(S4), 1938-1949.

²¹⁶ Melby, K., & Carlsson Wetterberg, C. (Eds.). (2009). *Gender equality and welfare politics in Scandinavia: The limits of political ambition?*. Policy Press.

²¹⁷ Borchorst, A. (2009). *Scandinavian gender equality: Competing discourses and paradoxes*. Freia, Feminist Research Center in Aalborg.

distribution is fairly equal with ratio 52:48 and vice versa – Czech Republic, Germany (51:49), Greece, Hungary and Netherlands. In Croatia the ratio is 37:63 in favor of women. We can say that in this country it could be named as female-dominated occupation.

If we look at other groups, we can see a clear pattern. Lower-intensity occupations like Clerical support workers (400), Service and skill workers (500) or Elementary occupations (900) are all in favor of women. This is a sign of clear vertical segregation since these occupations are mostly low-skilled meaning that women in these occupations are employed on lower hierarchical positions. Interesting is, that there are still high numbers of men working even in these occupations suggesting, that men see value in these occupations as well. However, we expect, that men in these occupations are working on higher hierarchical positions than women, assuming glass ceiling effect.

There are three groups of occupations which are showing high male domination - Skilled agricultural, forestry and fishery workers (600), Craft and related trades workers (700) and Plant and machine operators and assemblers (800). All jobs in these groups require high physical strength, what is making a barrier for women to enter the occupation. We believe that these occupational group are highly male-dominated not because of discrimination or some labor market characteristics, but because of lack of demand for the job from women. The most segregated group out of these three is Craft and related trades workers (700) with average ratio of 90 % men to 10 % women employees.

Table 4.4 offers different insight into the vertical segregation. It is showing the distribution of employees throughout the whole economy of a country as a percentage of each gender's labor force. Armed forces, as expected, account only for about 1 % of male population in the labor market. Regarding Managers (100), men account for about 10 % of the men's labor force in comparison with 5 % of the women's labor force, proving the results from the Table 4.3 of high vertical segregation throughout European countries. The biggest share of workers is employed in Professionals group (200) implying high educational level attained by workers in European countries. Professionals increase the existing stock of knowledge, apply scientific or artistic concepts and theories, teach about the foregoing in a systematic manner, or engage in any combination of these three activities (ILO, 2012)²¹⁸.

²¹⁸ ILO. International Standard Classification of Occupations Structure, group definitions and correspondence tables. (2012). Geneva. ISBN 9778-92-2-125953-4

Table 4.4: Vertical segregation, by occupation and country (% of National Econ.), 2020

	EUROPEAN COUNTRIES (EU-28 AND UK), 2020																																													
	BE		BG		CZ		DE		DK		EE		ES		FI		FR		GR		HR		HU		IT		LT		LV		NL		NO		PL		PT		RO		SE		SI		SK	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W		
0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	2	0	1	0	1	0	2	0	1	0	2	0	0	0	2	1	2	0	1	0	1	0	0	0	1	0	1	0
100	10	7	6	5	6	3	6	3	4	2	13	8	5	3	3	2	10	6	4	2	7	3	4	3	5	2	11	7	10	11	8	3	10	6	6	6	7	4	3	2	7	6	9	7	6	4
200	23	30	12	24	16	22	20	22	24	34	16	30	16	25	28	29	19	23	17	25	13	25	17	22	13	20	16	33	13	25	29	30	22	35	15	29	18	27	12	21	26	37	20	32	11	19
300	13	14	9	10	17	17	18	24	20	17	14	17	13	10	17	24	20	21	7	10	15	14	11	19	18	17	9	11	12	16	15	19	18	14	12	15	13	9	5	8	20	17	13	14	15	18
400	8	15	3	10	4	16	9	19	4	10	4	7	7	15	3	7	4	12	9	16	6	14	4	12	7	18	3	7	2	7	7	12	5	7	5	8	6	11	3	6	5	7	6	10	5	15
500	8	19	15	28	9	22	10	18	13	25	6	19	15	27	10	25	10	21	21	28	10	24	10	20	12	24	7	20	7	20	11	25	14	29	8	19	13	25	10	24	11	24	8	18	13	24
600	2	0	4	2	1	1	2	1	2	1	2	1	3	1	4	2	4	1	10	10	5	3	4	2	3	1	5	3	5	2	3	1	2	1	9	8	7	3	17	18	2	1	4	2	1	0
700	18	1	18	7	25	4	19	2	13	1	22	3	19	2	17	2	14	2	14	2	21	2	25	3	20	3	22	6	18	5	13	2	17	1	24	4	20	4	23	7	16	2	24	3	24	5
800	10	2	18	7	17	8	9	2	8	2	17	6	13	2	13	2	11	3	11	1	15	5	17	8	10	3	17	4	18	2	7	1	9	1	16	3	11	5	17	6	9	2	13	6	19	7
900	7	13	14	9	4	8	6	9	11	10	6	11	9	15	5	7	6	12	6	8	8	9	8	11	10	12	8	10	15	13	8	8	3	4	4	8	5	12	10	8	4	4	4	8	5	9
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: LFS 2020, own calculations. M – Men, W – Women. 0 - Armed Forces, 100 – Managers, 200 – Professionals, 300 - Technicians and associated professionals, 400 - Clerical support workers, 500 - Service and sales workers, 600 - Skilled agricultural, forestry and fishery workers, 700 - Craft and related trades workers, 800 - Plant and machine operators and assemblers, 900 - Elementary occupations

Interestingly, in Denmark every third employed women is Professional, number even higher in Sweden. In the Slovak Republic it is 19 % of women who are working in high-skilled and high-education requiring positions, number lowest in Visegrad group countries (CZ – 22 %, HU – 22 %, PL – 29 %). Another group of high-skilled workers is Technicians and associated professionals (300). Technicians and associate professionals perform mostly technical and related tasks connected with research and the application of scientific or artistic concepts and operational methods, and government or business regulations, and teach at certain educational levels (ILO, 2012)²¹⁹. This group, on average, accounts for almost the same share of employees as the Managers (100). However, the segregation is rather slight (BE, BG, SI) in favor of women or even none in some countries (CZ).

Regarding occupations with lower required skill level, Clerical support workers (400) record, organise, store, compute and retrieve information related to the work in question, and perform several clerical duties especially in connection with money-handling operations, travel arrangements, requests for information, and appointments (ILO, 2012)²²⁰. The employment rate of women is much higher in this occupational category in comparison with men. This implies that women more likely tend to be employed in occupations with lower skill level required than men. This trend is even more visible in the next group - Service and sales workers (500) who provide personal and protective services related to travel, housekeeping, catering, personal care, or protection against fire and unlawful acts, or they pose as models for artistic creation and display or demonstrate and sell goods in wholesale or retail shops and similar establishments, as well as at stalls and on markets. Although, there are some countries, where men like to work in Service and sales also – Greece with 21 % of men working in the industry or Spain with 15 %. We can attribute this finding to the fact that it occurs mainly in southern Mediterranean countries, where men are also likely to work in tourism and tourism related industries like gastronomy. Slovakia belongs to one of a few countries, where employment of women is the highest in Service industry.

Agricultural, forestry and fishery industry (600) is not one of the most favourite industries for neither men nor women. The exact opposite could be stated about Craft and related trades workers (700) in case of men. The essence of the phenomenon lies in the jobs that the industry covers - mining and construction, forming metal, erecting metal structures,

²¹⁹ ILO. International Standard Classification of Occupations Structure, group definitions and correspondence tables. (2012). Geneva. ISBN 9778-92-2-125953-4

²²⁰ ILO. International Standard Classification of Occupations Structure, group definitions and correspondence tables. (2012). Geneva. ISBN 9778-92-2-125953-4

setting machine tools, process foodstuffs or handcrafting goods (ILO, 2012)²²¹. Average share of employed men in this industry is about 19 %. Czech Republic and Hungary are countries with highest employment of men in these occupations, both having 25 % of men employed there. Slovak Republic is not far behind with 24 % of men doing these jobs.

Employment in the occupations Plant and machine operators and assemblers (800) is also skewed towards men. People in this industry operate and monitor industrial and agricultural machinery and equipment. The work mainly calls for experience with and an understanding of industrial and agricultural machinery and equipment as well as an ability to cope with machine-paced operations and to adapt to technological innovations. Therefore, these jobs are more suitable for men. Labor market in the Slovak Republic shows the highest share of men employed in these occupations across the whole observed sample (19 %) as well as women (7 %). Completely opposite situation is observed in occupational group Elementary occupations (900). Elementary occupations consist of simple and routine tasks which mainly require the use of hand-held tools and often some physical effort. These occupations are highly represented by women, however, in some countries there are more men in these occupations – Bulgaria, Denmark, Latvia or Romania.

Even better view at vertical segregation offers Cartogram 2. It shows a share of women in high-skilled occupations on women employed. This view allows us to better understand the international differences. We observe that the southern countries (mostly Mediterranean) have lower shares of women in high-skilled occupations – Spain with the lowest share of 38 %.

Similarly, countries of the former Eastern Bloc have lower shares, except Baltic countries. Vertical segregation is therefore still evident in the countries of the Eastern Bloc, where majority of employed women work in low- or middle-skilled occupations. The further north we go, the more favourable the situation is for women. Sweden has the highest share of high-skilled occupations presented by woman – 60 %. Other Scandinavian countries show above-average shares as well – 54 % for Finland and Norway and 52 % for Denmark. In this regard, it looks like the Scandinavian countries really are the most equal.

The analysis of horizontal and vertical segregation helped us identify the male-dominated and female-dominated sectors of economy and occupations. The results show that

²²¹ ILO. International Standard Classification of Occupations Structure, group definitions and correspondence tables. (2012). Geneva. ISBN 9778-92-2-125953-4

there is indeed persistent gender segregation in the labor market even though there is national and international law prohibiting it.

Cartogram 2: Share of women in high-skilled occupations (%), 2020



Source: LFS 2020, own calculations. High-skilled occupations are defined as occupations ISCO 100, 200 and 300. Share of women in high-skilled occupations is computed as a share of women in these occupational groups as a percentage of a women employed.

4.2 Indexes of gender segregation

So far, we have looked at the gender segregation in the labor market from the static point of view, analysing it only for one year (2020). Further analysis changes that by focusing on dynamics of the gender segregation. This subchapter provides the results of the analysis of gender segregation through indexes used to measure gender segregation. Table 4.5 shows the results of Index of Dissimilarity for time period (2012-2020) and the change in that period. Index of Dissimilarity is widely used measurement of the gender segregation in the literature

(Bertaux, 1991²²²; Anker et al., 2003²²³; Weeden et al., 2018²²⁴). In order to have an equal representation of women in all occupations, the Index of Dissimilarity calculates the proportion of women who would need to change from a female to a male-dominated occupation. In reverse, it may alternatively be seen as the proportion of males who would have to enter fields that are dominated by women. From Table 4.5 we can see that the Index of Dissimilarity has been quite stable for the whole observed period. This means that despite the policies implemented to prevent gender segregation in the labor market, it persists. Country with the lowest gender segregation is Greece (21,46 % in 2020) with values showing declining trend. On the contrary, Latvia is showing almost twice the size of segregation with almost 41 % of employees needed to change their jobs in order to achieve a gender equal labor market and increasing. Unfortunately, the Slovak Republic is also showing unpleasant results being the second most segregated labor market – value of ID = 39,38 %. Netherlands is the country with the most plausible trend showing the highest rate of desegregation in the observed period (-2,51 %). In Croatia, on the other side, the segregation is deepening substantially with more than +6 % change in 8 years. The same trend can be explored in Romania, but in this country the overall values of Index of Dissimilarity are considerably lower.

Table 4.5: Index of Dissimilarity, NACE computed, 2012-2020

Country	2012	2014	2016	2018	2020	Δ 2020/2012 (p.p.)
Belgium	33,77%	34,88%	34,86%	34,89%	34,37%	0,60
Bulgaria	28,29%	27,54%	29,61%	31,53%	31,45%	3,16
Czech Republic	34,90%	33,36%	32,90%	32,59%	34,71%	-0,19
Germany	32,61%	32,24%	31,84%	31,85%	32,60%	-0,02
Denmark	34,18%	33,85%	32,96%	33,48%	33,46%	-0,73
Estonia	37,93%	37,12%	39,07%	38,35%	36,82%	-1,11
Spain	32,67%	32,74%	32,87%	47,29%	31,74%	-0,93
Finland	40,30%	40,84%	40,63%	39,47%	38,79%	-1,51
France	31,59%	31,79%	31,09%	31,40%	31,75%	0,16
Greece	23,31%	21,82%	21,86%	21,41%	21,46%	-1,85
Croatia	29,91%	32,49%	36,01%	33,34%	36,00%	6,09
Hungary	32,96%	32,02%	33,02%	34,74%	33,91%	0,95
Italy	32,31%	32,84%	32,98%	32,86%	32,38%	0,07
Lithuania	31,99%	32,42%	33,57%	30,98%	30,84%	-1,15
Latvia	36,43%	38,72%	38,96%	56,89%	40,98%	4,55
Netherlands	34,97%	32,94%	33,54%	29,99%	32,45%	-2,51

²²² Bertaux, N. E. (1991). The roots of today's "women's jobs" and "men's jobs": Using the index of dissimilarity to measure occupational segregation by gender. *Explorations in Economic History*, 28(4), 433-459.

²²³ Anker, R., Melkas, H., & Korten, A. (2003). Gender-based occupational segregation in the 1990s (Vol. 16). Genève: International Labor Office.

²²⁴ Weeden, K. A., Newhart, M., & Gelbgiser, D. (2018). Occupational segregation. State of the Union: The Poverty and Inequality Report," ed. Stanford Center on Poverty and Inequality, special issue, pathways magazine. Access, 27.

Norway	39,55%	39,42%	37,24%	37,65%	37,37%	-2,19
Poland	34,17%	34,59%	36,00%	36,27%	36,64%	2,47
Portugal	32,05%	31,11%	32,36%	33,14%	33,28%	1,23
Romania	22,91%	23,76%	26,16%	25,24%	28,57%	5,66
Sweden	37,57%	36,54%	36,70%	36,68%	36,20%	-1,37
Slovenia	33,11%	30,99%	35,35%	32,73%	36,62%	3,51
Slovak Republic	39,70%	38,76%	37,97%	52,90%	39,38%	-0,32
United Kingdom	32,64%	32,11%	31,96%	32,66%		0,02

Source: LFS 2012, 2014, 2016, 2018, 2020, own calculations.

Notes: UK 2020 missing due to data unavailability. For UK the change (last column) is 2018/2012.

When analysing the gender segregation, it is crucial to establish the background in terms of how much women engage in the workforce, given that segregation may be divided into two types (Anker et al., 2003)²²⁵. One is when women and men in the labor market are segregated into different occupations (which we proved in the subchapter 4.1). Second is when women are in fact kept out of the workforce, especially when it comes to non-family employment and work. Figure 4.1 plots the value of the Index of Dissimilarity and female labor participation rate for the year 2020. There is clear strong positive correlation between the variables ($\rho = 0,50$; $p < 0,01$) meaning that increased female labor participation rate is associated with higher gender segregation. This implies that women who enter the labor force are very likely to be employed in female-dominated sectors, further deepening the segregation. Female labor participation rate explains about 25 % of the segregation. Important factor determining female employment is the social system or welfare system (Bettio, 2002)²²⁶. In the countries where the welfare system is family-based (e.g., Italy or Greece) we observe low female participation rate but also lower levels of gender segregation. The practice of keeping female nurturing and caregiving tasks within the family is widespread in these nations, keeping women from the labor market. The opposite can be observed in the countries with advanced state-based welfare systems (e.g., Scandinavian countries – Finland, Norway, Sweden), where the female labor participation rate belongs to the highest. The segregation is, however, also very high. Bettio (2002)²²⁷ argues that public sector employment conditions play a significant role in these countries. In order to further improve the compatibility between work and family, the public sector frequently offers flexible work hours, and the female breadwinner typically takes advantage of these chances

²²⁵ Anker, R., Melkas, H., & Korten, A. (2003). Gender-based occupational segregation in the 1990s (Vol. 16). Genève: International Labor Office.

²²⁶ Bettio, F. (2002). The pros and cons of occupational gender segregation in Europe. Canadian Public Policy/Analyse de Politiques, S65-S84.

²²⁷ Bettio, F. (2002). The pros and cons of occupational gender segregation in Europe. Canadian Public Policy/Analyse de Politiques, S65-S84

(Emerek et al., 2003)²²⁸ employing themselves in the public sector. Therefore, the segregation occurs on a higher level in these countries. Slovakia, with above average segregation and female employment, belongs to these countries as well.

Table 4.6: MSS Index, NACE computed, 2012-2020

Country	2012	2014	2016	2018	2020	Δ 2020/2012 (p.p.)
Belgium	36,82%	37,39%	37,47%	37,14%	36,59%	-0,23
Bulgaria	29,73%	29,14%	31,56%	33,71%	33,77%	4,04
Czech Republic	39,66%	37,78%	36,83%	36,28%	38,83%	-0,83
Germany	35,09%	34,50%	34,12%	34,14%	34,63%	-0,46
Denmark	35,97%	35,81%	34,90%	35,51%	35,49%	-0,48
Estonia	38,15%	38,01%	39,89%	39,50%	37,90%	-0,25
Spain	35,60%	35,65%	35,84%	39,90%	34,48%	-1,12
Finland	41,47%	41,88%	42,05%	40,93%	40,34%	-1,13
France	33,11%	32,91%	32,17%	32,42%	32,66%	-0,45
Greece	27,36%	25,37%	25,34%	25,04%	24,73%	-2,62
Croatia	32,71%	35,20%	38,95%	36,02%	39,14%	6,42
Hungary	35,29%	34,68%	35,86%	38,03%	37,42%	2,13
Italy	37,78%	38,16%	38,36%	38,07%	37,55%	-0,23
Lithuania	30,97%	31,81%	32,70%	30,61%	30,87%	-0,10
Latvia	35,63%	38,38%	38,23%	42,20%	40,53%	4,89
Netherlands	37,06%	35,73%	36,24%	32,22%	34,81%	-2,25
Norway	41,70%	41,49%	39,13%	39,82%	39,52%	-2,18
Poland	37,92%	38,26%	39,71%	39,91%	40,61%	2,69
Portugal	33,23%	32,08%	33,19%	33,86%	33,73%	0,50
Romania	25,56%	26,72%	29,76%	28,70%	32,80%	7,25
Sweden	39,39%	38,34%	38,31%	38,40%	38,27%	-1,13
Slovenia	35,85%	33,77%	37,88%	35,41%	39,70%	3,85
Slovak Republic	44,44%	43,18%	42,00%	45,44%	43,15%	-1,29
United Kingdom	34,83%	34,14%	34,00%	34,60%		-0,23

Source: LFS 2012, 2014, 2016, 2018, 2020, own calculations.

Notes: UK 2020 missing due to data unavailability. For UK the change (last column) is 2018/2012.

Second indicator used to measure the gender segregation in the labor market is the Moir and Shelby Smith Index (MSS or Gorard's Index). The index represents the percentage of women in the workforce that would need to change industry categories in order for the distribution of women among industries to match the distribution of women in the workforce as a whole. The modified index naturally takes the distribution of industries, the size of the overall labor force, and the proportion of women in the overall labor force as given (Moir and Shelby-Smith, 1979²²⁹). Since the MSS Index is computed as a multiplication of the Index of

²²⁸ Emerek, R., Figueiredo, H., González, P., Gonäs, L., & Rubery, J. (2003). Indicators on gender segregation. Rapport, CETE, Faculdade de Economia, Universidade do Porto.

²²⁹ Moir, H., & Smith, J. S. (1979). Industrial segregation in the Australian labor market. Journal of industrial Relations, 21(3), 281-291.

Dissimilarity and a male employment share, it will be always higher than Index of Dissimilarity. Table 4.6 shows the development of the index over time. The results show that gender segregation is the highest in the Slovak Republic at about 43 %, although slightly decreasing over time. The situation is very similar in Poland and Finland with index values above 40 %. On the opposite side of the ranking, similarly to the values of ID, is Greece (24,73 %) in addition with trend being the best among observed countries (-2.62 %). Situation in Romania, however, has worsened significantly in the observed period (+7,25 %). The same could be observed in the case of Croatia (+6,42 %) or Latvia (+4,89 %). Generally, the values of the index suggest that segregation in most countries lowers, but the intensity is very low, and change is slow. From the Figure 4.1 we observe that correlation between MSS Index and the female labor participation rate is positive ($\rho = 0,27$; $p < 0,01$), although weaker than in the case of ID-FLPR relationship. The coefficient of determination suggests that female labor participation rate explains only about 8 % of variation of segregation. Another possible explanation for the gender segregation is that from the supply point of view, women like careers with high starting salaries, low experience requirements, and light penalties for temporary absences, such maternity leaves. Unfortunately, this type of employment is provided mainly in the low paying sectors, further deepening the gender segregation even from the financial point of view.

Table 4.7: Karmel-MacLachlan Index, NACE computed, 2012-2020

Country	2012	2014	2016	2018	2020	Δ 2020/2012 (p.p.)
Belgium	16,75%	17,35%	17,33%	17,37%	17,11%	0,36
Bulgaria	14,11%	13,73%	14,74%	15,69%	15,64%	1,53
Czech Republic	17,13%	16,39%	16,21%	16,09%	17,11%	-0,02
Germany	16,21%	16,04%	15,84%	15,84%	16,23%	0,02
Denmark	17,05%	16,87%	16,42%	16,68%	16,67%	-0,38
Estonia	18,96%	18,55%	19,53%	19,16%	18,40%	-0,57
Spain	16,20%	16,24%	16,30%	23,07%	15,75%	-0,45
Finland	20,13%	20,41%	20,29%	19,71%	19,36%	-0,77
France	15,76%	15,88%	15,53%	15,68%	15,86%	0,10
Greece	11,30%	10,62%	10,65%	10,40%	10,48%	-0,82
Croatia	14,82%	16,13%	17,89%	16,56%	17,86%	3,04
Hungary	16,40%	15,90%	16,39%	17,21%	16,77%	0,38
Italy	15,69%	15,99%	16,05%	16,02%	15,78%	0,08
Lithuania	15,98%	16,20%	16,78%	15,49%	15,42%	-0,56
Latvia	18,20%	19,36%	19,47%	26,55%	20,49%	2,28
Netherlands	17,42%	16,35%	16,66%	14,91%	16,14%	-1,28
Norway	19,72%	19,65%	18,57%	18,76%	18,62%	-1,10
Poland	16,88%	17,10%	17,81%	17,95%	18,11%	1,23
Portugal	16,00%	15,54%	16,17%	16,56%	16,64%	0,63
Romania	11,30%	11,70%	12,83%	12,38%	13,97%	2,67
Sweden	18,74%	18,23%	18,31%	18,30%	18,04%	-0,70

Slovenia	16,44%	15,37%	17,59%	16,25%	18,18%	1,74
Slovak Republic	19,57%	19,13%	18,77%	25,92%	19,51%	-0,06
United Kingdom	16,25%	15,99%	15,91%	16,27%		0,02

Source: LFS 2012, 2014, 2016, 2018, 2020, own calculations.

Notes: UK 2020 missing due to data unavailability. For UK the change (last column) is 2018/2012.

Third indicator we use to measure gender segregation is the Karmel-MacLachlan Index (IP Index). The Karmel-MacLachlan index can be thought of as the number of employed workers who should be relocated (with replacement) in order to eliminate segregation while maintaining the employment structure and the shares of women and men in the total level of employment (Carillo and Sappio, 2012)²³⁰. Table 4.7 shows the results for this indicator. The Slovak Republic proved to be, again, the country with the highest segregation. 19,51 % of employees would need to change their jobs in order to remove segregation. The 8-year change shows that the situation is not getting better. The segregation is, even according to this indicator, the lowest in Greece, where about 1 in 10 employees need to change his/her job for segregation to disappear. Croatia and Romania are topping the list of countries with the worst 10's decade having the highest change of the indicator (+3,04 %, 2,67 % respectively). However, the change is not that high as in case of Index of Dissimilarity or MSS Index. On the other hand, Scandinavian countries are showing a progress throughout time. In all of them, the segregation has decreased in the observed period of time. The most pronounced decrease occurred in Norway (-1,10 %) and Finland (-0,77 %). In Sweden, the decrease was persistent in all years measured. Gonäs et al. (2019)²³¹ argues that this was because the proportion of women increased in occupations that demand higher education, both in gender-integrated and in male-dominated occupations while simultaneously men increased their proportion in low-skilled, female-dominated occupations. But Netherlands is showing the best results in the case of dealing with gender segregation (-1,28 %), although in recent years it rose a little. Thijs et al. (2019)²³² attribute this phenomenon to changing the normative societal climate in the country by promoting educational levels and educational expansion. With few exceptions, we can see that the segregation, according to this indicator, is higher in former Eastern Bloc countries. We

²³⁰ Carillo, M. R., & Sappio, A. (2012). Wage Gaps and Gender Discrimination in the Private and Public Sectors: The Case of Italian Graduate Young Workers'. Centro di Ricerca Interdipartimentale in Sviluppo Economico e Istituzione Discussion Paper, (9).

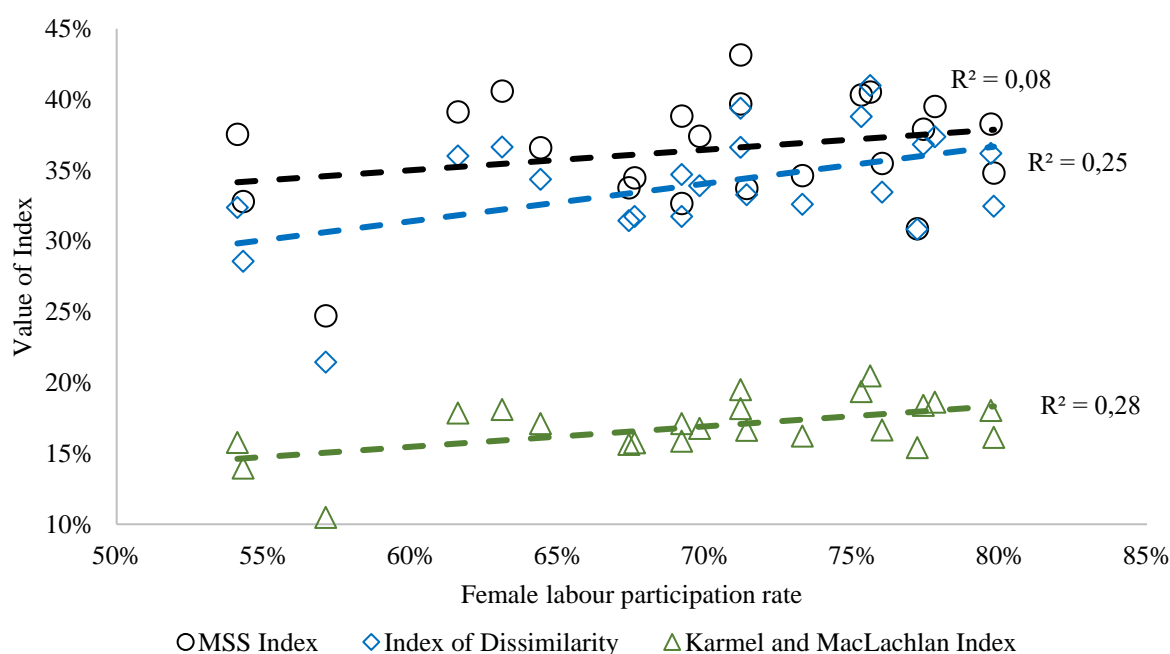
²³¹ Gonäs, L., Wikman, A., Vaez, M., Alexanderson, K., & Gustafsson, K. (2019). Changes in the gender segregation of occupations in Sweden between 2003 and 2011. *Scandinavian Journal of Public Health*, 47(3), 344-347.

²³² Thijs, P., Te Grotenhuis, M., Scheepers, P., & van den Brink, M. (2019). The rise in support for gender egalitarianism in the Netherlands, 1979-2006: The roles of educational expansion, secularization, and female labor force participation. *Sex Roles*, 81(9), 594-609.

assume that these countries still need time for gender equality narrative to come into effect despite already having the international law forbidding segregation ratified.

Figure 4.1 also plots the relationship between Karmel and MacLachlan Index and female labor participation rate. According to the coefficient of determination this indicator has the strongest ability to explain a variation in the segregation ($R^2 = 0,28$). The correlation is also strong and positive ($\rho = 0,53$; $p < 0,01$) indicating higher segregation associated with higher female employment. There are further possible explanations of the gender segregation in the labor markets that the literature provides. Women are likely to be more expensive than men in terms of labor demand even if they make the same income because childbirth and childcare may result in increased absences, higher turnover rates, and compensated maternity leave. This restricts the number of professions for which women are eligible (Carillo and Sappio, 2012)²³³. Additionally, it was suggested by Becker (1971)²³⁴ that if employers have prejudices against hiring women, they will suffer disutility from hiring female employees. Naturally, none of these justifications account for the protective legislation at the national and international levels that forbids jobs requiring heavy lifting and night-time work, among other things (Anker, 1997)²³⁵.

Figure 4.1: FLPR and Indexes of segregation (NACE computed), 2020



Source LFS 2020, Eurostat. Own calculations.

²³³ Carillo, M. R., & Sappio, A. (2012). Wage Gaps and Gender Discrimination in the Private and Public Sectors: The Case of Italian Graduate Young Workers'. Centro di Ricerca Interdipartimentale in Sviluppo Economico e Istituzione Discussion Paper, (9).

²³⁴ Becker, G. (1971). The economics of discrimination Chicago: University of Chicago Press.

²³⁵ Anker, R. (1997). Theories of occupational segregation by sex: An overview. Int'l Lab. Rev., 136, 315.

So far, we have counted and analysed the gender segregation between sectors (NACE computed), horizontal. The next part of the 4.2 subchapter focuses on computing and analysing of the vertical gender segregation – between occupations (ISCO computed). The issue is crucial because occupational segregation affects both women's financial stability and the health of the economy. A waste of human capital resources is implied by the systematic exclusion of women from specific occupations (Humpert, 2014)²³⁶. Table 4.8 shows the results of Index of Dissimilarity between the occupations. The results show that there is a big difference between countries. The gap between the highest and the lowest segregated countries is almost 13 percentage points with average value of the index of 32 %. The occupational segregation is the strongest in Estonia, where 36,83 % of employed workers would need to change their jobs in order to remove the segregation. Other Baltic countries are very close to this number too. However, trends show that the segregation is decreasing. Possible explanation is entrance of women to professional jobs and exit of women from agricultural and crafts occupations (Kalmaz and Lisaniler, 2019)²³⁷. The biggest decrease in occupational segregation is observed in Scandinavian countries – Finland (-7,77 %) and Sweden (-7,26 %). The segregation levels are still quite high, even though these countries are considered equality friendly. Ellingsæter (2013)²³⁸ argues that the Scandinavian welfare states facilitate women's access into the labor force but not into powerful and desirable positions. These welfare states tend to have high levels of female labor force participation, along with a high concentration of women in female-typed occupations and low female representation in managerial occupations. The expansion of the public sector creates jobs for women, but women are at the same time selected into low paying female-typed service jobs with a high proportion of part-time employment. Similar trends could be observed in the Slovak Republic or Netherlands. Germany and Czech Republic seem to be doing well in fight with occupational gender segregation too, but situation in most countries did not change much during observed period. Figure 4.2 plots the values of Index of Dissimilarity and female labor participation rate. The fitted line shows no correlation between the variables ($\rho = -0,08$; $p > 0,1$). Coefficient of determination values at 0,0 meaning that female labor participation rate has no explanation power of variation of the occupational segregation. If we compare the values of the Index of Dissimilarity for horizontal segregation (Table 4.5) with the

²³⁶ Humpert, S. (2014). Trends in occupational segregation: What happened with women and foreigners in Germany?.

²³⁷ Kalmaz, D. B., & Lisaniler, F. G. (2019). Closing gender gap in education of elimination of male domination? Occupational gender segregation in North Cyprus. Hacettepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 37(1), 89-110.

²³⁸ Ellingsæter, A. L. (2013). Scandinavian welfare states and gender (de) segregation: Recent trends and processes. Economic and Industrial Democracy, 34(3), 501-518.

values of vertical segregation (Table 4.8) we can see that the vertical segregation shows lower values. This implies that in order to eliminate the gender segregation completely it is necessary for more employed people to change sector rather than occupation or climb the organizational hierarchy.

Table 4.8: Index of Dissimilarity, ISCO computed, 2012-2020

Country	2012	2014	2016	2018	2020	Δ 2020/2012 (p.p.)
Belgium	33,19%	33,65%	33,50%	33,26%	30,51%	-2,68
Bulgaria	30,57%	31,70%	30,80%	30,92%	30,98%	0,41
Czech Republic	38,61%	37,67%	37,87%	36,35%	35,40%	-3,21
Germany	33,45%	33,24%	32,22%	31,69%	29,03%	-4,41
Denmark	28,40%	29,08%	28,10%	28,26%	28,40%	-0,01
Estonia	42,64%	40,37%	39,56%	37,83%	36,83%	-5,81
Spain	35,94%	35,54%	35,39%	34,12%	35,71%	-0,22
Finland	36,43%	35,99%	33,81%	32,19%	28,65%	-7,77
France	29,37%	31,85%	30,08%	30,44%	29,33%	-0,04
Greece	27,94%	25,86%	24,96%	25,99%	26,79%	-1,14
Croatia	31,36%	33,37%	34,10%	33,44%	35,88%	4,52
Hungary	34,57%	33,79%	33,60%	34,25%	34,04%	-0,53
Italy	33,57%	33,28%	32,42%	31,13%	31,65%	-1,92
Lithuania	38,22%	38,05%	38,73%	37,59%	36,24%	-1,98
Latvia	35,66%	38,84%	37,10%	40,84%	35,83%	0,16
Netherlands	28,90%	27,05%	27,09%	26,66%	23,95%	-4,94
Norway	36,50%	36,23%	33,84%	34,70%	33,41%	-3,09
Poland	36,21%	35,97%	36,35%	36,43%	36,18%	-0,03
Portugal	34,13%	32,67%	32,51%	33,11%	32,92%	-1,21
Romania	25,66%	25,21%	26,55%	27,84%	29,43%	3,77
Sweden	34,72%	33,42%	30,58%	29,50%	27,47%	-7,26
Slovenia	31,22%	30,66%	32,72%	30,47%	31,50%	0,28
Slovak Republic	39,91%	37,39%	36,24%	34,47%	34,50%	-5,41
United Kingdom	29,12%	29,69%	28,62%	28,66%		-0,46

Source: LFS 2012, 2014, 2016, 2018, 2020, own calculations.

Notes: UK 2020 missing due to data unavailability. For UK the change (last column) is 2018/2012.

Table 4.9 shows the results for the second indicator of gender segregation – Moir and Shelby-Smith Index. The results are very similar to those of Index of Dissimilarity. They changed very little in magnitude, showing better results (lower occupational segregation) for countries which had negative values of 20/12 change in the previous indicator and worse results (higher occupational segregation) for countries which had positive values of 20/12 change in the previous indicator. The gap between the best performing country (Netherlands – 25,43 %) and the worst performing country (Poland – 40,11 %) has deepened to almost 15 percentage points implying a high segregation across labor market in the European countries. Only two countries showed different results than in ID values. Situation in the labor market in Denmark

has according to the MSS Index worsened by about 0,23 % during the observed period in comparison to Index of Dissimilarity (-0,01 %). Second country where the situation turned around is Hungary. The change during the observed period turned positive with value of 0,55 % compared to -0,53 % in case of Index of Dissimilarity. The Slovak Republic is showing very plausible trend (-6,87 %) but the occupational segregation still remains one of the highest of all observed countries. Interestingly, Figure 4.2 shows weak and negative correlation between MSS Index and female labor participation rate ($\rho = -0,36$; $p < 0,1$). This means that women in the European labor markets are likely to be employed in the higher hierarchical positions (ISCO 1-3) We have previously confirmed this result (Table 4.3 and 4.4) via finding that ISCO occupation 200 – Professionals is more represented by women than men. Overall, values of the MSS Index of vertical segregation proved to be, again, lower than values of the same index computed for horizontal segregation.

Table 4.9: MSS Index, ISCO computed, 2012-2020

Country	2012	2014	2016	2018	2020	Δ 2020/2012 (p.p.)
Belgium	36,18%	36,07%	36,01%	35,41%	32,48%	-3,71
Bulgaria	32,13%	33,54%	32,83%	33,06%	33,27%	1,14
Czech Republic	43,88%	42,67%	42,41%	40,46%	39,61%	-4,27
Germany	35,99%	35,56%	34,52%	33,97%	30,79%	-5,19
Denmark	29,89%	30,78%	29,69%	29,93%	30,11%	0,23
Estonia	42,89%	41,35%	40,36%	38,96%	37,85%	-5,04
Spain	39,16%	38,70%	38,59%	37,18%	38,79%	-0,37
Finland	37,45%	36,88%	34,99%	33,39%	29,80%	-7,65
France	30,81%	33,01%	31,14%	31,47%	30,20%	-0,61
Greece	32,79%	30,07%	28,94%	30,39%	30,88%	-1,91
Croatia	34,29%	36,16%	36,87%	36,13%	39,00%	4,70
Hungary	37,02%	36,60%	36,49%	37,49%	37,56%	0,55
Italy	39,26%	38,68%	37,70%	36,06%	36,71%	-2,55
Lithuania	37,00%	37,33%	37,72%	37,14%	36,29%	-0,72
Latvia	34,89%	38,48%	36,36%	40,28%	35,41%	0,52
Netherlands	31,13%	29,21%	29,05%	28,48%	25,43%	-5,70
Norway	39,43%	38,17%	35,60%	36,71%	35,37%	-4,07
Poland	40,18%	39,80%	40,09%	40,10%	40,11%	-0,07
Portugal	35,39%	33,69%	33,34%	33,82%	33,38%	-2,02
Romania	28,63%	28,36%	30,21%	31,67%	33,79%	5,16
Sweden	36,38%	35,02%	31,90%	30,87%	29,01%	-7,36
Slovenia	33,76%	33,30%	35,01%	32,92%	34,08%	0,32
Slovak Republic	44,67%	41,65%	40,08%	37,96%	37,81%	-6,87
United Kingdom	31,10%	31,57%	30,45%	30,36%		-0,74

Source: LFS 2012, 2014, 2016, 2018, 2020, own calculations.

Notes: UK 2020 missing due to data unavailability. For UK the change (last column) is 2018/2012.

The last index we use to compute occupational segregation is the Karmel-Lachlan Index. Table 4.10 shows the results. The heterogeneity computed by this index does not seem to be so big as compared to previous indexes – about 7 % (the reason is partly because the value of this index has a maximum value of 50 %). While maintaining the employment structure and the shares of women and men in the total level of employment, on average almost 16 % of employed workers in the European labor markets would need to change their occupations. Estonia showed the highest value of the segregation index – 18,40 % but it is continuously decreasing. On the other side of the scale is Netherlands, where the occupational segregation proved to be the lowest out of the observed countries – 11,93 %. The highest decline in the gender segregation can be seen in Finland where the value of index has lowered by about 3,90 % over the observed period. Interestingly, only 5 countries showed an increase in this indicator over the 8-year period. Most notably Croatia with increase in about 2,26 percentage points or 1,73 pp. in Romania. Labor markets in other three countries (Bulgaria, Latvia and Slovenia) showed only little increase in the value of index (<0,2 pp.). Otherwise, all countries are desegregating and a step closer to gender equality with Slovakia being one of the countries with the highest decline of segregation (-2,58). Values of Karmel-Lachlan Index and female labor participation rate showed no correlation ($p = 0,02$; $p > 0,1$) and no explaining power of the occupational gender segregation ($R^2 = 0,00$).

Table 4.10: Karmel-Lachlan Index, ISCO computed, 2012-2020

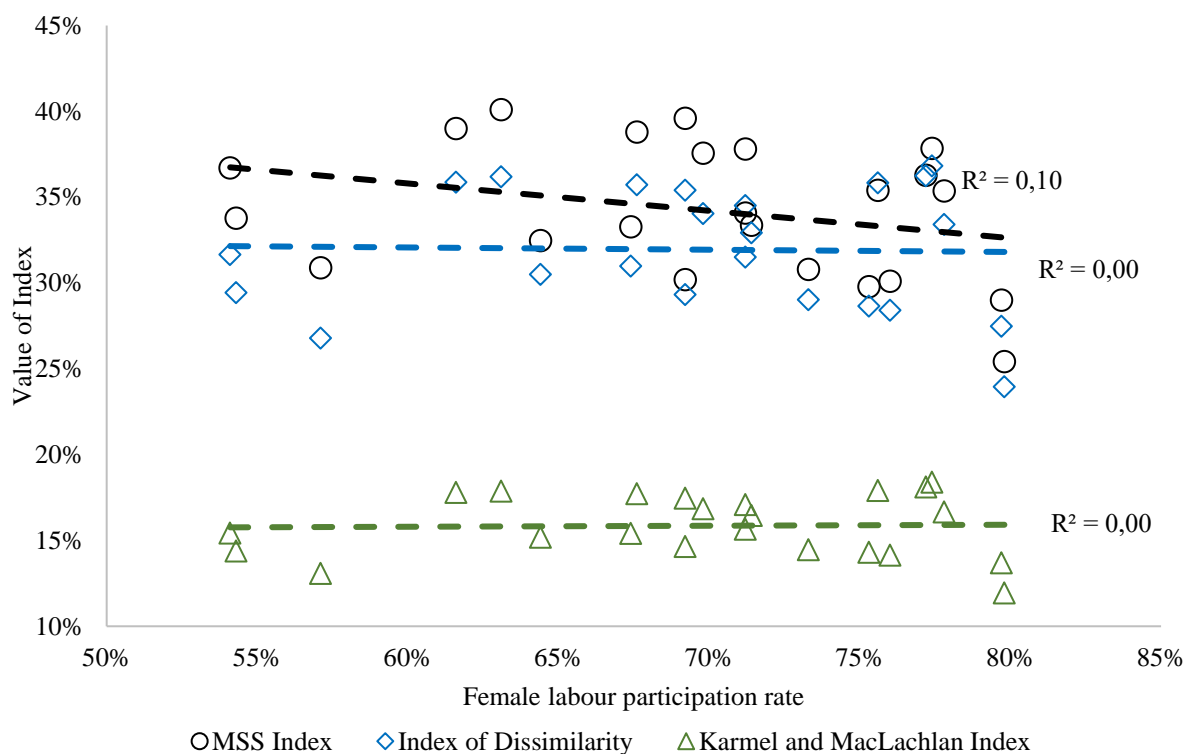
Country	2012	2014	2016	2018	2020	Δ 2020/2012 (p.p.)
Belgium	16,46%	16,74%	16,65%	16,56%	15,19%	-1,27
Bulgaria	15,25%	15,80%	15,33%	15,39%	15,41%	0,16
Czech Republic	18,95%	18,50%	18,67%	17,94%	17,45%	-1,49
Germany	16,63%	16,54%	16,03%	15,77%	14,46%	-2,16
Denmark	14,16%	14,49%	14,01%	14,08%	14,15%	-0,02
Estonia	21,32%	20,17%	19,77%	18,90%	18,40%	-2,92
Spain	17,82%	17,63%	17,55%	16,92%	17,72%	-0,10
Finland	18,20%	17,98%	16,89%	16,07%	14,30%	-3,90
France	14,65%	15,90%	15,02%	15,20%	14,65%	0,00
Greece	13,55%	12,58%	12,16%	12,62%	13,09%	-0,46
Croatia	15,54%	16,57%	16,94%	16,61%	17,80%	2,26
Hungary	17,20%	16,78%	16,68%	16,97%	16,84%	-0,36
Italy	16,31%	16,20%	15,78%	15,18%	15,42%	-0,88
Lithuania	19,09%	19,02%	19,35%	18,79%	18,12%	-0,97
Latvia	17,82%	19,42%	18,54%	20,42%	17,91%	0,09
Netherlands	14,36%	13,44%	13,47%	13,27%	11,93%	-2,43
Norway	18,13%	18,06%	16,88%	17,29%	16,65%	-1,48
Poland	17,89%	17,78%	17,98%	18,03%	17,88%	-0,01
Portugal	17,04%	16,32%	16,24%	16,55%	16,46%	-0,58
Romania	12,66%	12,41%	13,02%	13,66%	14,39%	1,73

Sweden	17,32%	16,67%	15,26%	14,72%	13,69%	-3,63
Slovenia	15,51%	15,22%	16,28%	15,14%	15,64%	0,14
Slovak Republic	19,67%	18,45%	17,92%	17,06%	17,09%	-2,58
United Kingdom	14,49%	14,78%	14,25%	14,28%		-0,21

Source: LFS, 2012, 2014, 2016, 2018, 2020, own calculations.

Notes: UK 2020 missing due to data unavailability. For UK the change (last column) is 2018/2012.

Figure 4.2: FLPR and Indexes of segregation (ISCO computed), 2020



Source LFS 2020, Eurostat. Own calculations.

In this part of the analysis, we proved that horizontal and vertical segregation are important issues in the labor market which need our attention. Both segregation types are a long-lasting problem but for most countries declining in the recent decade. However, the levels of segregation still remain considerable, result confirming the results of previous studies (Blau et al., 1998²³⁹; 2013²⁴⁰). Female labor participation rate is still an important determinant of the sectoral gender segregation, the result which support the existing literature (Sparreboom, 2014²⁴¹; Siltanen, 2021²⁴²; Costa et al., 2011²⁴³). The possible consequences of segregation are

²³⁹ Francine D. Blau, Patricia Simpson & Deborah Anderson (1998) Continuing Progress? Trends in Occupational Segregation in the United States over the 1970s and 1980s, *Feminist Economics*, 4:3, 29-71, DOI: 10.1080/135457098338301

²⁴⁰ Blau, F. D., Brummund, P., & Liu, A. Y. H. (2013). Trends in occupational segregation by gender 1970–2009: Adjusting for the impact of changes in the occupational coding system. *Demography*, 50(2), 471-492.

²⁴¹ Sparreboom, T. (2014). Gender equality, part-time work and segregation in Europe. *International Labor Review*, 153(2), 245-268.

²⁴² Siltanen, J. (2021). *Locating gender: Occupational segregation, wages and domestic responsibilities*. Routledge.

²⁴³ Costa, C., Carvalho, I., & Breda, Z. (2011). Gender inequalities in tourism employment: The Portuguese case. *Revista Turismo & Desenvolvimento*, (15), 39-54.

lower job satisfaction and stress but also a high employee turnover. Cohen (2013)²⁴⁴ highlights a very important phenomenon related to gender segregation - devaluation. Gender devaluation in the workplace happens when jobs with strong female representation are paid less because they are disproportionately held by women. This is a result of a number of things, including the fact that men have more authority to defend their advantages at work and that managers and companies profit from underpaying women (Cotter et al. 1997)²⁴⁵.

Occupational segregation is important because career options are frequently limited by socialization, a lack of knowledge, or barriers to entry into training or employment in fields where one gender constitutes a small minority of the workforce. Employers are forced to choose employees from a smaller and less motivated pool of workers, which reduces overall productivity and economic growth in addition to producing less than ideal results for individual workers (Hegewisch et al., 2010)²⁴⁶. Important issue in this topic is also a relationship between the proportion of women employed in a given occupation and wage level in a given occupation. The research shows that they are negatively correlated meaning the higher the proportion of women employed, the lower the median earnings (Mussida and Picchio, 2014²⁴⁷; Kunze, 2018²⁴⁸). Women who work in occupations where women predominate therefore face a twofold disadvantage - Lower wages because they work in a profession that is dominated by women, and lower wages because women are more likely to earn less than males in a given profession. In the extreme case, working in a female-dominated occupation as opposed to a male-dominated may lead to the extreme difference between wages needed to live on a modest level and wages at the level of poverty (Hegewisch et al., 2010)²⁴⁹. The potential repercussions could be particularly severe for the numerous families that depend solely on a female breadwinner.

Our further research focuses on the calculation of the unadjusted and adjusted gender pay gap and factors affecting it in the labor market of the European countries.

²⁴⁴ Cohen, P. N. (2013). The persistence of workplace gender segregation in the US. *Sociology Compass*, 7(11), 889-899.

²⁴⁵ Cotter, D. A., DeFiore, J., Hermesen, J. M., Kowalewski, B. M., & Vanneman, R. (1997). All women benefit: The macro-level effect of occupational integration on gender earnings equality. *American sociological review*, 714-734.

²⁴⁶ Hegewisch, A., Liepmann, H., Hayes, J., & Hartmann, H. (2010). Separate and not equal? Gender segregation in the labor market and the gender wage gap. *IWPR Briefing Paper*, 377, 1-16.

²⁴⁷ Mussida, C., & Picchio, M. (2014). The trend over time of the gender wage gap in Italy. *Empirical Economics*, 46(3), 1081-1110.

²⁴⁸ Kunze, A. (2018). The gender wage gap in developed countries. *The Oxford handbook of women and the economy*, 369-394.

²⁴⁹ Hegewisch, A., Liepmann, H., Hayes, J., & Hartmann, H. (2010). Separate and not equal? Gender segregation in the labor market and the gender wage gap. *IWPR Briefing Paper*, 377, 1-16.

4.3 Unadjusted Gender Pay Gap

Very important indicator regarding the gender segregation is the gender pay gap. Gender pay gap could be defined as a percentage gap between the wages of men and women. Despite the large law legislation forbidding the gaps between wages women and men do not receive equal pay for equal work. In general, women earn less than males do, receive lower pay, and enjoy less favourable employment conditions. Pay disparities between men and women, in particular, have an impact on women's status and influence within the household as well as their position in the labor market. After retirement, gender disparities at employment become a source of inequality (Grybaitė, 2006)²⁵⁰. In this subchapter, we analyse the wage inequalities between men and women in selected European countries, specifically through unadjusted and adjusted gender pay gaps.

Figure 4.3: Distribution of hourly wages (log), by country, 2018-2020



Source: EU-SILC 2020, SES 2018, own calculations. Data for Germany, Italy and Poland are from SES 2018 dataset because of EU-SILC data unavailability.

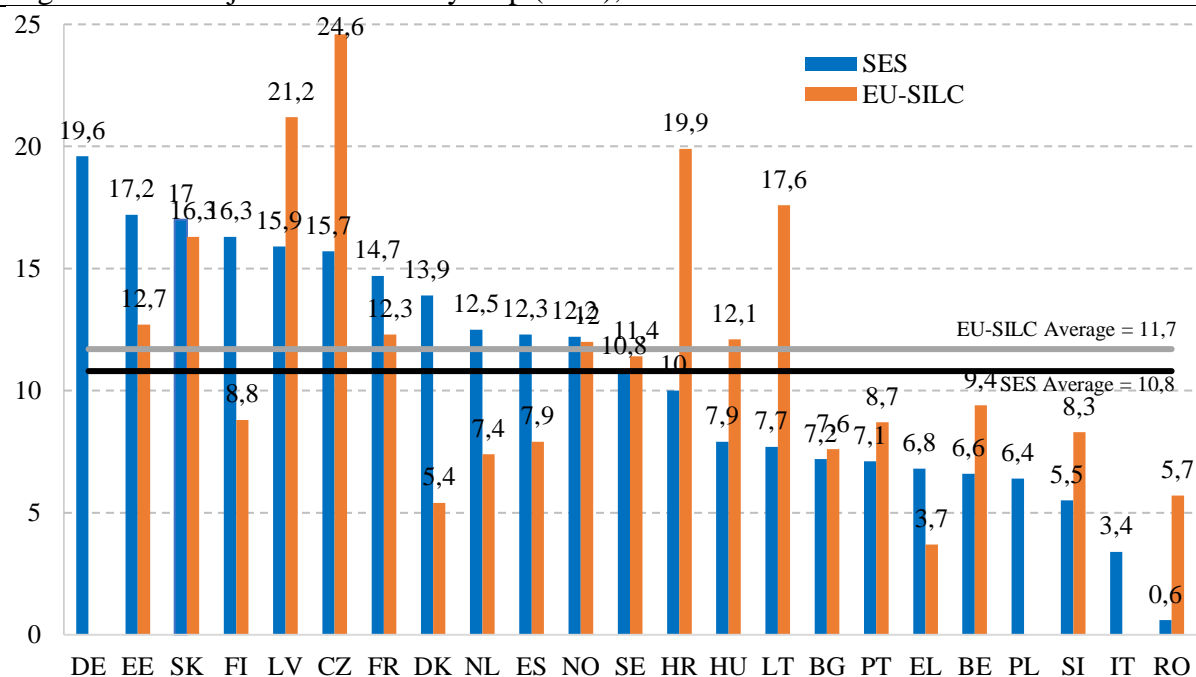
²⁵⁰ Grybaitė, V. (2006). Analysis of theoretical approaches to gender pay gap. *Journal of business economics and management*, 7(2), 85-91.

Before proceed to the analysis of the gender pay gap, we show the distributions of the wages (in logarithm) of men and women in the selected European countries. Figure 4.3 plots the distributions. First glance might suggest that the wages are quite similar in most countries, however, if we take a closer look, we can see that the wages of men (blue lines) are in majority of the countries more evenly distributed with higher average suggesting that men show higher heterogeneity of wages. It can be explained by the argument, that men tend to be employed in higher number of sectors and occupations than women, who are likely to be employed on the same wage level occupations and sectors. Furthermore, men's wages are significantly more right-shifted compared to females (red lines), indicating an overall gender pay gap. Important finding is that most of women's distributions are slightly left-skewed. This indicates that women are likely to be employed on the left side of the wage distribution meaning a lower paid jobs (see Poland, Portugal or Germany). The wage difference seems to be the most prominent in Croatia with the peak of men's wages appearing more on the right side of the distribution. The same applies to Romania, Slovak Republic or Czech Republic. There is not any country where the women's wage distribution is more right-shifted than men's, indicating that the gender pay gap, as expected, is in all selected European countries in favour of men.

Figure 4.4 shows the unadjusted (raw) gender pay gap for selected European countries. As state in the Methodology section (chapter 3), we use 2 different datasets to compute the gender pay gaps – Structure of Earnings Survey 2018 (SES) and EU Structure of Income and Living Conditions 2020 (EU-SILC). The results show big variation between the countries, from less than 1 % gap in Romania to almost 20 % in Germany for SES. The variation is even bigger for EU-SILC dataset, ranging from 3,7 % in Greece to 24,6 % in Czech Republic. We account this to the fact, that Structure of Earnings survey dataset does not include companies with less than 10 employees, which EU-Structure of Income and Living Conditions does. Majority of the gender pay gap might occur exactly in these companies, therefore using both datasets simultaneously is legitimate. The salient differences should be dismissed once we include the control variables in computation of the gender pay gap. For example, in Croatia the gender pay gap almost doubles in EU-SILC dataset (19,9 % compared to 10 %). In Lithuania, the ratio even more than 2:1. However, in many countries the EU-SILC data show lower gender pay gap than SES. E.g., Denmark is a country where, when accounting for small enterprises, gender pay gap falls from 13,9 % to 5,4 %. Similar results can be observed for Netherlands or Spain. These results show that unadjusted gender pay gap is rather complex indicator, but it is not good enough in explaining the difference in wages that is accounted to gender. The major drawback

of this indicator is that it does not control for differences in the composition of the male and female workforce and in their wage determining characteristics like individual (e.g., age, education, experience, etc.) and labor market characteristics (e.g., firm size, sector, occupation, etc.) (Drolet, 2001)²⁵¹, or the structure of economy. It is very likely that the gender pay gap at the country level, which includes all sections, will be significantly biased. Because of this, it is unlikely that publicly published value of the gender pay gap will have much of an impact at the micro level (Śliwicki and Ryczkowski, 2014)²⁵². Before making assumptions regarding potential wage discrimination in particular countries, it should only be regarded as an introduction value whose bounds need to be understood. The non-adjusted gender pay gap is not itself a measure of discrimination. Instead, it incorporates differences between women's and men's average income to act as a benchmark for comparison. Therefore, this indicator is suitable for international comparisons and is widely used because of its simplicity and straightforwardness. We believe that there are important factors that are correlated with the gender pay gap and could be classified as its determinants. Following lines and figures are focused on explaining the unadjusted gender pay gap and provide the international comparison and grouping of countries with the same observable characteristics.

Figure 4.4: Unadjusted Gender Pay Gap (in %), 2018-2020



Source: SES 2018, EU-SILC 2020, own calculations. Unadjusted gender pay gap is computed from hourly wages.

²⁵¹ Drolet, M. (2001). The persistent gap: New evidence on the Canadian gender wage gap. Statistics Canada Analytical Studies Branch Working Paper, (157).

²⁵² Śliwicki, D., & Ryczkowski, M. (2014). Gender Pay Gap in the micro level—case of Poland. *Metody Ilościowe w Badaniach Ekonomicznych*, 15(1), 159-173.

In the previous subchapter we proved that female employment in the labor market is very important determinant of the sectoral and occupational segregation. Gender pay gap and sectoral or occupational gender segregation are two very well documented intertwined phenomenon (Jurajda, 2003²⁵³; Khitarishvili et al., 2018²⁵⁴; Mavrikou and Angelovska, 2020²⁵⁵; Borrowman and Klassen, 2020²⁵⁶;). Majority of the research shows that female labor participation rate is positively correlated with unadjusted gender pay gap due to women being employed mostly in lower paid jobs. The results are not any different in this thesis. Figure 4.5 plots the unadjusted gender pay gap and female labor participation rate for selected European countries. It can be clearly seen that more women in the labor market is associated with higher gender pay gap. Furthermore, the countries could be divided into few groups according to the relationship between unadjusted gender pay gap and female labor participation rate:

1. Countries with low female labor participation rate and low gender pay gap – mostly southern (Mediterranean) countries like Italy, Greece, Spain or Romania. We expect that in these countries the society expects women to fulfil their household duties before entering the labor market. Therefore, women who are in the labor market are mostly career-oriented and tend to be employed in higher positions and better paid occupations. This is implying strong employment selection of women associated with low pay gap.
2. Countries with low female labor participation rate and high gender pay gap – in these group are countries like Croatia, France, Latvia or Lithuania. We believe that in the labor markets in the countries of this group, the gender pay gap is high because of most women being employed on a lower hierarchical position. Therefore, the sticky floor effect is strong in these countries keeping women in the lower positions with lower wages and widening the gap on the left side of wage distribution.
3. Countries with high female labor participation rate and low gender pay gap – there are only few countries in this group (Netherlands, Hungary or Sweden). These are the countries we consider the best performing in the labor market. The equality seems to be

²⁵³ Jurajda, Š. (2003). Gender wage gap and segregation in enterprises and the public sector in late transition countries. *Journal of comparative Economics*, 31(2), 199-222.

²⁵⁴ Khitarishvili, T., Rodriguez Chamussy, L., & Sinha, N. (2018). Occupational segregation and declining gender wage gap: The case of Georgia. *World Bank Policy Research Working Paper*, (8583).

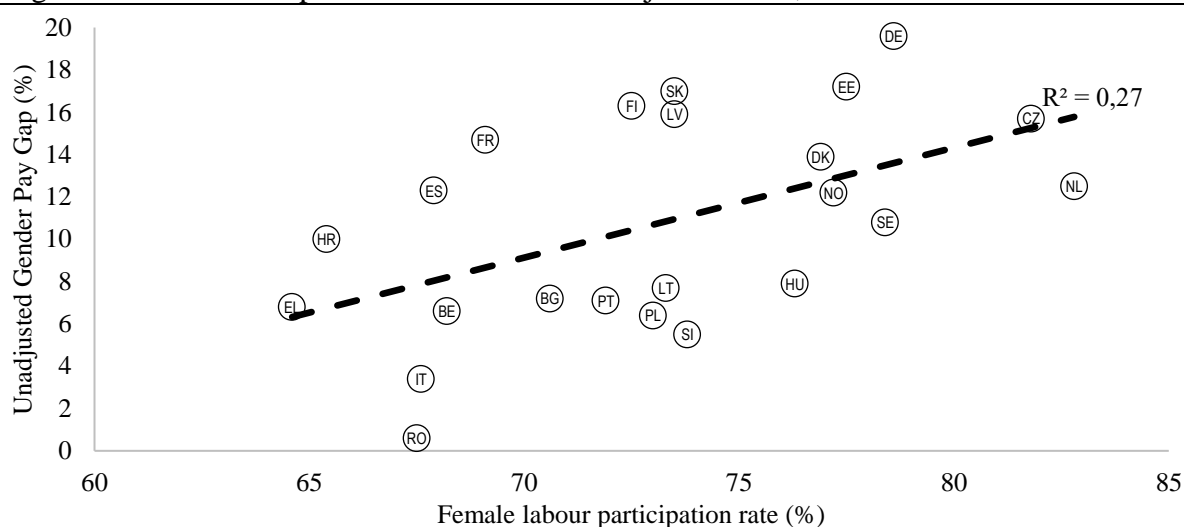
²⁵⁵ Mavrikou, P. M., & Angelovska, J. (2020). The impact of sex segregation by economic activity on the gender pay gap across Europe. *UTMS Journal of Economics*, 11(1).

²⁵⁶ Borrowman, M., & Klasen, S. (2020). Drivers of gendered sectoral and occupational segregation in developing countries. *Feminist Economics*, 26(2), 62-94.

the strongest in these countries. Especially Netherlands, which proved to be again the premiant of equality, confirming previous results from subchapter 4.1 and 4.2.

4. Countries with high female labor participation rate and high gender pay gap – countries like Czech Republic, Slovakia, Germany, Denmark or Estonia. We believe that a reason for high gender pay gap is, beside strong occupational and sectoral segregation, a high part-time share among employed women. For example, in Germany it is 48 % of employed women, in Denmark 30 % (Eurostat-Data explorer)²⁵⁷.

Figure 4.5: Relationship between FLPR and Unadjusted GPG, 2018



Source: SES 2018, Eurostat, own calculations. Unadjusted gender pay gap is computed from hourly wages.

Theoretical background suggests that more women employed in low-skilled occupations is associated with lower gender pay gap (Abendroth et al., 2017²⁵⁸; Boye et al., 2017²⁵⁹) and with higher gender pay gap in high-skilled occupations. Possible reason is that women have much higher family responsibilities than men. The belief that women are primarily in charge of the household may lead to presumptions that female workers are less appropriate for jobs requiring facetime at work. Therefore, commitments outside of work have a negative impact on human capital in high-skilled occupations widening the gap between men and women on the right side of the wage distribution. According to Anderson et al. (2002)²⁶⁰, highly skilled

²⁵⁷ Eurostat-Data Explorer (2022): Part-time employment and temporary contracts - annual data [lfsi_pt_a], last update 27.09.2022, extracted 25.10.2022, <http://ec.europa.eu/eurostat/data/database>

²⁵⁸ Abendroth, A. K., Melzer, S., Kalev, A., & Tomaskovic-Devey, D. (2017). Women at work: Women's access to power and the gender earnings gap. *ILR Review*, 70(1), 190-222.

²⁵⁹ Boye, K., Halldén, K., & Magnusson, C. (2017). Stagnation only on the surface? The implications of skill and family responsibilities for the gender wage gap in Sweden, 1974–2010. *The British journal of sociology*, 68(4), 595-619.

²⁶⁰ Anderson, D. J., Binder, M., & Krause, K. (2002). The motherhood wage penalty: Which mothers pay it and why?. *American economic review*, 92(2), 354-358.

women may suffer more consequences from leaving the workforce and the subsequent depreciation of human capital than low-skilled women. Regarding low-skilled occupations, the gender pay gap is not that high because women and men are, on this level, considered to be almost perfect substitutes. Meaning, if more women enter labor market, they can easily replace men, leading to decrease in the gender pay gap. Also, low-skilled women do not experience a wage penalty (or very little) for having children compared to non-mothers with the same level of education. Figures 4.6 and 4.7 plot the relationship between low- and high-skilled occupations and unadjusted gender pay gap. They both confirm the literature theory of skill requirements association with gender pay gap. In both cases the occupation explains about 20 % of the gender pay gap, quite high proportion. Another possible explanation for positive correlation between gender pay gap and high-skilled women employment is a glass ceiling effect. Even though women are highly educated (actually, more women finish tertiary education than men), they are not promoted to higher positions but still considered professionals. E.g., if a senior management position is open and a man and a woman at a mid-level management apply for it, the man has a significantly higher chance of getting the position than the woman. This consequently leads to the situation that women remain "stuck" in lower or middle-level managerial positions, but statistically still considered as a manager. Therefore, it is very important to take a closer look at within-occupation segregation or at least disaggregate the data to lower ISCO levels. This thesis, however, does not go that deep due to data unavailability.

Figure 4.6: Relationship between Women in low-skilled occup. and Unadj. GPG, 2018

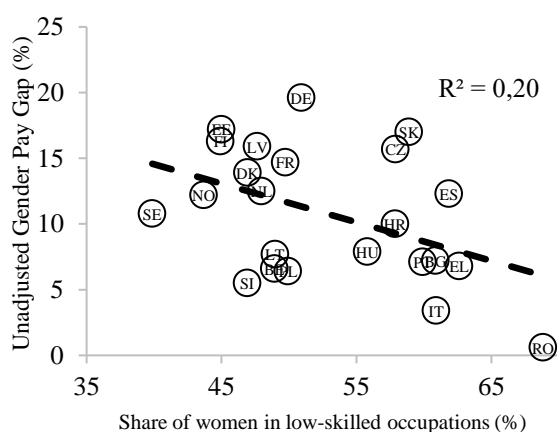
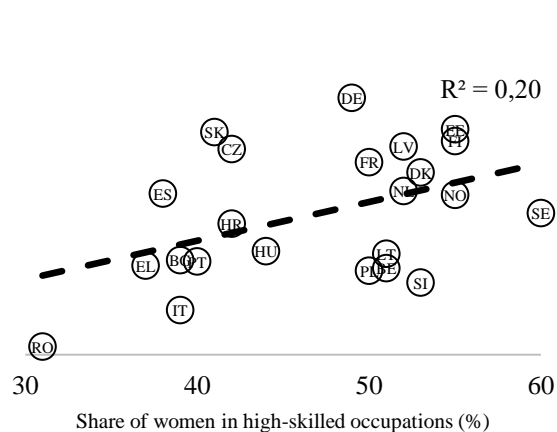


Figure 4.7: Relationship between Women in high-skilled occup. and Unadj. GPG, 2018



Source: SES 2018, own calculations. High-skilled occupations are defined as occupations ISCO 100-300 and low-skilled as ISCO 400-900. Share of women in low/high-skilled occupations is computed as a share of women in these occupational groups as a percentage of a women employed. Unadjusted gender pay gap is computed from hourly wages.

One of the main causes of the gender pay gap and the gender segregation in the labor market are the differences in attained education of men and women. In general, both men and women earn more money the more years of education they have. At every academic level, women earn less than men do on average, even though education is a powerful tool for raising wages (Table 4.11). One of the explanations is that men and women are expected to have different gender roles that affect how things go in the home, at school, in one's personal connections, in one's family life or work. Because of this, the educational pathways that men and women choose frequently diverge, resulting in overall wage differences (Ochsenfeld, 2014)²⁶¹. However, research shows that women now have higher levels of education than men do, and the gender pay gap has shrunk as more female graduates find jobs (Brynin, 2017)²⁶². Even though the educational gaps between men and women have significantly narrowed, especially among those who are employed, the gender pay gap is still at high level. From the Table 4.11 we can see that the disparity has an increasing tendency, with lower education levels associated with lower gender pay gap favouring men. To be more specific, Low educated women suffer a U-shaped wage penalty. Interestingly, the gender pay gap at primary educational level is lower than at secondary level. We believe that the explanation for this is that more men with low qualifications tend to be employed in higher-paying jobs. Many of them might be managerial positions where a degree hasn't traditionally been considered a requirement or highly skilled manual labor positions based on vocational training. Further results show that gender pay gap increases with higher education levels, being the highest at the Tertiary ISCED 7-8 (MSc / PhD.) level. This finding clearly supports the glass ceiling effect theory of widening the gender pay gap at the right side of the wage distribution, meaning that high education for women does not necessarily lead to being employed in a high paid job or high hierarchical position. The statistical significance of differences in average wages of men and women were tested via paired t-test and proved to be of high statistical significance.

Table 4.11: Unadjusted Gender Pay Gap, by education, cross-country, 2018-2020

SES					EU-SILC				
Education Level	Men	Women	Diff.	T-Test	Education Level	Men	Women	Diff.	T-Test
Primary (ISCED 0-2)	2,34	2,20	13,9%	***	Primary (ISCED 0-2)	2,24	2,06	17,9%	***
Secondary (ISCED 3-4)	2,43	2,34	8,7%	***	Secondary (ISCED 3-4)	2,23	2,09	14,40%	***
Tertiary (ISCED 5-6)	2,80	2,61	19,6%	***	Tertiary (ISCED 5-8)	2,81	2,64	17,3%	***
Tertiary (ISCED 7-8)	3,03	2,70	33,2%	***					

Source: SES 2018, EU-SILC 2020, own calculations. Where is the difference positive, males are exhibiting higher wages than females, at the mean, and vice versa. *** p<0.01, ** p<0.05, * p<0.1 significance of the T-test of a means difference.

²⁶¹ Ochsenfeld, F. (2014). Why do women's fields of study pay less? A test of devaluation, human capital, and gender role theory. *European Sociological Review*, 30(4), 536-548.

²⁶² Brynin, M. (2017). The gender pay gap. Equality and Human Rights Commission (EHRC). [accessed: 26 October 2022].

Since the cross-country sample data might be biased by some outliers among our examined countries, we provide the results broken down by countries. Table 4.12 shows the results. The very first country in the list, Belgium, shows interesting results with gender pay gap in Tertiary education (Bc. level) being in favour of women (-3 %). In the Czech Republic (similarly to Bulgaria or Germany) the gender pay gap is positively correlated with higher education levels. The gap is the highest in Germany for tertiary educated people with women earning, on average, 26,3 % less than men. On the other hand, in Estonia or Latvia the situation is completely different. Primary and secondary level educated people show very high wage differential which lowers with higher education attained. In Spain, the highest gap is in secondary education level, implying that women tend to be clustered in lower paid and probably low-skilled required occupations. Only a little number of women is employed in high-skilled occupations with higher-than-average wages. Also, female employment in Spain is rather low in comparison with other examined countries. Curious situation occurs in the labor market in Hungary, where the gender pay gap is rather low in primary and secondary education levels but almost triples the amount in tertiary education level. Possible explanation for this phenomenon is that women in Hungary are discriminated against and suffer from very strong glass ceiling effect with average gap about 25 %. Data for the Slovak Republic shows interesting situation in the tertiary education gaps. Gap on the tertiary ISCED 5-6 (Bc.) level show 6-7 percentage points lower value than in secondary and tertiary ISCED 7-8 (MSc. / PhD.) level. This means that women tend to end their studies after the Bc. level of education and rather enter the labor market than continue studies to MSc. / PhD. degree. However, they still suffer from quite high segregation with earning on average 14 % less than men.

Table 4.12: Unadjusted Gender Pay Gap, by education and country, 2018

Country	Primary (ISCED 0-2)	Secondary (ISCED 3-4)	Tertiary (ISCED 5-6)	Tertiary (ISCED 7-8)
Belgium	6,8***	6,0***	-3,0***	6,0***
Bulgaria	6,0***	10,9***	22,8***	24,1***
Czech Republic	10,1***	15,7***	23,5***	23,3***
Germany	10,5***	15,0***	23,7***	26,3***
Denmark	16,6***	16,4***	16,8***	15,1***
Estonia	25,2***	25,9***	23,1***	12,4***
Greece	11,9***	10,4***	6,4***	22,5***
Spain	16,1***	19,0***	14,4***	17,1***
Finland	16,7***	18,2***	25,3***	18,5***
France	13,3***	15,7***	17,7***	22,4***
Croatia	21,0***	14,6***	20,5***	19,1***
Hungary	9,0***	10,2***	24,7***	25,1***
Italy	13,8***	6,9***	8,8***	14,8***
Lithuania	11,5***	14,1***	19,2***	12,6***

Latvia	25,0***	24,3***	21,1***	17,7***
Netherlands	15,4***	12,3***	16,4***	20,9***
Norway	11,7***	16,1***	17,4***	19,7***
Poland	16,4***	17,0***	24,0***	17,6***
Portugal	17,1***	16,9***	16,2***	14,6***
Romania	2,2***	7,7***	14,1***	8,2***
Sweden	14,1***	14,3***	14,2***	10,8***
Slovenia	16,3***	12,4***	16,4***	19,0***
Slovak Republic	7,0***	20,4***	14,0***	21,8***

Source: SES 2018, own calculations. Where is the difference positive, males are exhibiting higher wages than females, at the mean, and vice versa. *** p<0.01, ** p<0.05, * p<0.1 significance of the T-test of a means difference.

One argument for the positive correlation between gender pay gap and education levels might be that men have on average higher attained education than women, leading to higher men's wages than women. Broad research literature has dealt with this argument (Kunze, 2005²⁶³; Blau and Kahn, 2006²⁶⁴; Hirsch et al., 2013²⁶⁵). The pay gap is said to have been influenced by historical variations in the levels of qualifications held by both genders (Leaker, 2008²⁶⁶). The rapid wages convergence throughout the 1970s and 1980s was due to changes in the job market that were mostly in favor of women, as well as their relative educational and professional advancements (Blau and Kahn, 1997)²⁶⁷. Figure 4.8 plots the Gender enrolment ratio for tertiary education from 1972 to 2019, which is an indicator of the ratio of women to men at tertiary level in public and private schools, also called Gender parity index. The trends of this indicator confirm the already existing research literature. Since 1980s, more women enrolled in tertiary education than men indicating that women should have, on average, higher education attainment than men. The gender parity in tertiary education shows to be stable since 2000s until present with ratio higher than 1 suggesting more women than men in this education level. However, the gender pay gap is still persistent and high in some countries (Figure 4.4).

This finding suggests that education possibly lowers the gender pay gap, but there are other factors doing the opposite. Furthermore, correlation between the gender pay gap and gender enrolment ratio is positive (Figure 4.9) implying that even though women tend to have higher education attained, further jobs, that they are employed in, provide lower wages than for

²⁶³ Kunze, A. (2005). The evolution of the gender wage gap. *Labor Economics*, 12(1), 73-97.

²⁶⁴ Blau, F. D., & Kahn, L. M. (2006). The gender pay gap: Going, going... but not gone. *The declining significance of gender*, 37-66.

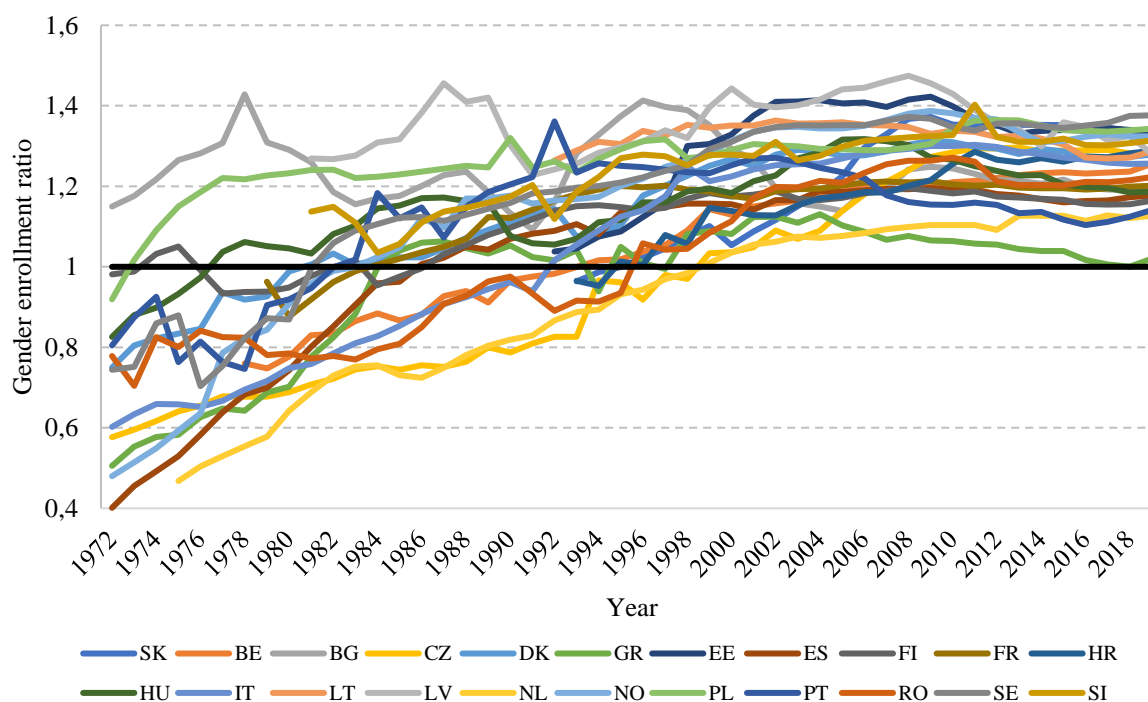
²⁶⁵ Hirsch, B., König, M., & Möller, J. (2013). Is there a gap in the gap? Regional differences in the gender pay gap. *Scottish Journal of Political Economy*, 60(4), 412-439.

²⁶⁶ Leaker, D. (2008). The gender pay gap in the UK. *Economic & Labor Market Review*, 2(4), 19-24.

²⁶⁷ Blau, F. D., & Kahn, L. M. (1997). Swimming upstream: Trends in the gender wage differential in the 1980s. *Journal of labor Economics*, 15(1, Part 1), 1-42.

men. Answer to this question lies in the structure of education fields that graduates finish. The distribution of men and women across various academic fields is typically seen to be uneven.

Figure 4.8: Gender Enrolment Ratio (Tertiary), gender parity index, 1972-2019



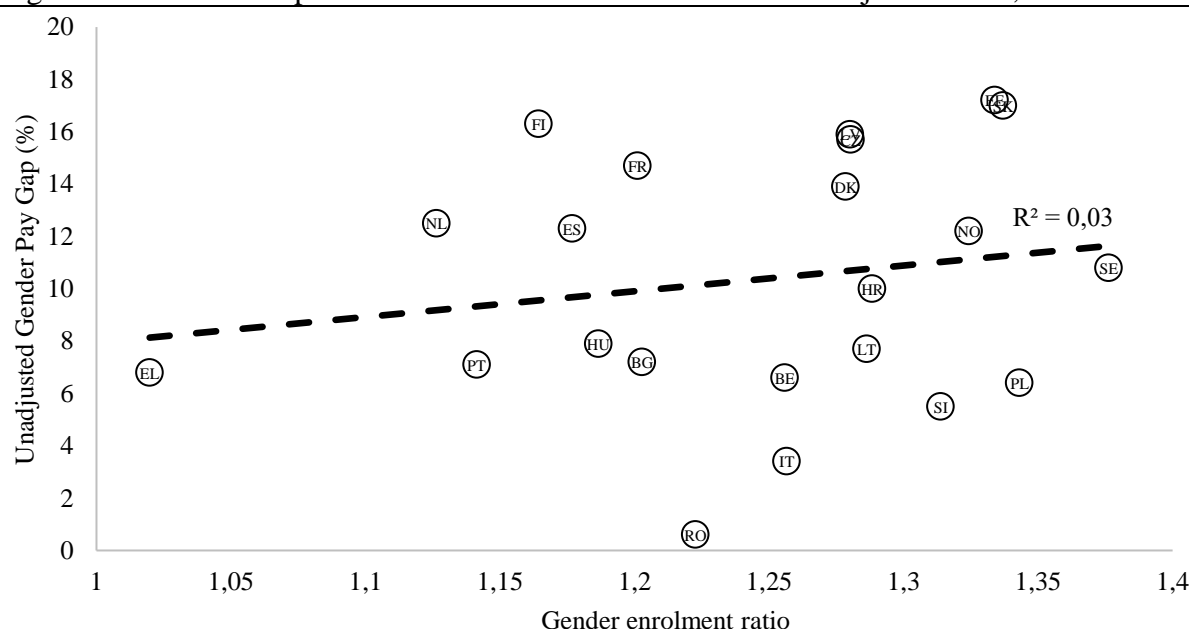
Source: World Bank, own calculations. Value of Gender enrolment ratio equal 1 means total equality, value >1 means that more women are enrolled in tertiary education and vice versa.

The problem is that women are very likely to finish tertiary education in fields that later provide lower-paying jobs, like social care, arts or education, and only very little proportion ends in high-paying ones. On the other hand, there might be lower number of male graduates than female, but their fields of study are more likely to be considered high-demand (e.g., STEM fields – science, technology, engineering and math) providing much higher wages than female’s fields, a phenomenon supporting the sectoral and occupational segregation in the labor market. Clustering of men and women in the early stages of entry to the labor market (largely happening during the choosing of the field of study) has a negative impact on the gender pay gap and very importantly it predetermines and effects the lifelong earnings. Furthermore, since the female-dominated education fields tend to produce more graduates than men-dominated, subsequent labor supply and competition between female graduates tends to be much higher, lowering the wages and leading to higher gender pay gap, oppositely for men in men’s fields of study. There are several justifications for the gender-based categorization of majors (Jacobs, 1995)²⁶⁸. The

²⁶⁸ Jacobs, J. A. (1995). Gender and academic specialties: Trends among recipients of college degrees in the 1980s. *Sociology of Education*, 81-98.

predicted wages throughout the career are frequently used to explain the gender-specific choice of majors. Women tend to expect interruptions during their careers, making them more inclined to select specializations that will increase their lifetime earnings the most. In other words, women tend to select academic majors where initial salaries are higher - notwithstanding the gradual growth over years - and where the cost of leaving the workforce would be lower. Some social psychologists (Kim and Kim, 2003)²⁶⁹ contend that gender-typed socialization from childhood and the early years of schooling influences both women and men to select careers that appear to be sex-appropriate. Men and women have different tendencies to engage in specific activities, which later influences the majors they choose. For instance, men tend to favor study areas that require analytical thinking, while women favor those that include interpersonal interactions and caring (Betz and Fitzgerald, 1987)²⁷⁰.

Figure 4.9: Relationship between Gender enrolment ratio and Unadjusted GPG, 2018



Source: SES 2018, World Bank, own calculations. Unadjusted gender pay gap is computed from hourly wages.

According to Figure 4.9, we can divide the countries into four groups:

1. Countries with low gender pay gap and low gender enrolment ratio – Greece, Portugal, Hungary, Bulgaria or Romania. Women in these countries tend to be clustered in majors which further provides them job with wages similar to men. Therefore, the gender segregation is relatively low in these countries.

²⁶⁹ Kim, A., & Kim, K. W. (2003). Returns to tertiary education in Germany and the UK: Effects of fields of study and gender.

²⁷⁰ Betz, N. E., & Fitzgerald, L. F. (1987). The career psychology of women. Academic Press.

2. Countries with low gender pay gap and high gender enrolment ratio – Poland, Slovenia, Croatia, Lithuania, Belgium or Italy. Low gender pay gap associated with high women education attainment, in these countries, indicates that women are catching up with men regarding wages and education is possibly one of the main factors contributing to the convergence.
3. Countries with high gender pay gap and low gender enrolment ratio – Netherlands, Finland, Spain or France. Low difference in education enrolment shows that, in these countries, the education is not main driving force of the gender pay gap since, very likely the education attainment is similar for men and women. Segregation drivers therefore lie in other factors.

Countries with high gender pay gap and high gender enrolment ratio – Slovak Republic, Estonia, Czech Republic, Latvia, Sweden, Denmark or Norway. The theory of differential choice of majors shows to be relevant in these countries. Women in these countries tend to study in majors that subsequently secure them lower paying-jobs, widening the gender pay gap. Strong gender stereotypes are a possible explanation for situations in these countries.

Table 4.13: Unadjusted Gender Pay Gap, by age groups, cross-country, 2018-2020

Age Group	SES				EU-SILC			
	Men	Women	Diff.	T-Test	Men	Women	Diff.	T-Test
14-19	2,06	2,11	-4,80%	***	1,61	1,12	49,10%	***
20-29	2,36	2,32	3,40%	***	2,19	2,22	-2,70%	
30-39	2,52	2,41	10,40%	***	2,42	2,36	5,40%	***
40-49	2,59	2,42	16,60%	***	2,47	2,35	12,20%	***
50-59	2,67	2,48	19,00%	***	2,52	2,36	15,70%	***
60+	2,64	2,54	9,40%	***	2,46	2,4	6,10%	***

Source: SES 2018, EU-SILC 2020, own calculations. Where is the difference positive, males are exhibiting higher wages than females, at the mean, and vice versa. *** p<0.01, ** p<0.05, * p<0.1 significance of the T-test of a means difference.

Important factor determining the gender pay gap is age. Both male and female employees' earnings tend to rise with age. However, the growth of wages is not the same for both genders. Table 4.13 shows the unadjusted gender pay gap by different age groups. The gender wage gap widens as people become older, and the differences between older and younger workers are much higher. The discrepancy is less for younger age groups, the widest for women in their fifties, then narrowing again, showing reversed U-shape. Both datasets showed similar trends, however EU-SILC data of a lower magnitude. Regarding 14-19 age group, the Structure of Earnings Survey showed that women have, on average, slightly higher wages. Meaning that women after finishing high school tend to be employed in occupations

with higher wages than men. However, first years of a job experience or tertiary education have higher returns for men, turning the gender pay gap in their favour and widening it further in next age stages. Moreover, women frequently transition to part-time employment at age about 30 in order to start a family and take care of children, whereas males typically increase their labor supply by working more hours at the same age. The average wage for women between the ages of 30s and 50s is essentially unchanged due to part-time employment's lower hourly pay average and its lower prevalence in leadership roles. As opposed to women, men's hourly average incomes rise over time (Schrenker and Zucco, 2020)²⁷¹. The statistical significance of differences in average wages of men and women were tested via paired t-test and proved to be of high statistical significance.

Table 4.14: Unadjusted Gender Pay Gap, by age group and country, 2018

Country	14-19	20-29	30-39	40-49	50-59	60+
Belgium	2,4***	2,0***	5,3***	8,1***	7,9***	12,2***
Bulgaria	8,1***	6,9***	12,4***	9,6***	5,8***	-4,2***
Czech Republic	8,0***	8,9***	16,3***	21,5***	16,1***	10,6***
Germany	1,5***	7,9***	14,4***	24,0***	28,0***	18,9***
Denmark	1,9***	11,1***	13,9***	17,4***	16,7***	12,7***
Estonia	8,4***	11,7***	18,6***	18,0***	15,5***	9,5***
Greece	4,2	-1,0	3,5***	6,0***	9,8***	18,4***
Spain	-2,7***	5,1***	9,7***	12,3***	16,9***	19,3***
Finland	2,4***	7,1***	14,0***	20,7***	20,5***	22,6***
France	0,3	8,9***	11,6***	14,9***	16,9***	25,9***
Croatia	3,8***	4,7***	9,8***	15,3***	13,0***	3,0*
Hungary	2,1***	5,1***	11,1***	10,6***	4,4***	8,0***
Italy	1,6***	2,4***	3,4**	5,0***	6,1***	4,3
Lithuania	7,2***	8,2***	9,5***	7,3***	4,7***	5,2***
Latvia	7,5***	12,6***	16,8***	15,0***	13,4***	12,5***
Netherlands	-0,3**	-1,7***	5,1***	17,9***	24,7***	18,9***
Norway	4,2***	5,1***	9,0***	13,1***	15,5***	15,4***
Poland	10,6***	7,4***	11,2***	9,5***	1,6***	-9,7***
Portugal	1,8***	0,7	4,4***	12,7***	9,1***	17***
Romania	6,1***	4,1**	4,4**	-1,7***	-0,9***	-9,9***
Sweden	4,1***	6,7***	9,6***	13,8***	13,9***	12,3***
Slovenia	10,2***	7,4***	8,3***	6,8***	5,2***	-4,6***
Slovak Republic	11,3***	11,8***	19,2***	20,6***	16,4***	11,2***

Source: SES 2018, own calculations. Where is the difference positive, males are exhibiting higher wages than females, at the mean, and vice versa. *** p<0.01, ** p<0.05, * p<0.1 significance of the T-test of a means difference.

²⁷¹ Schrenker, A., & Zucco, A. (2020). The gender pay gap begins to increase sharply at age of 30. DIW Weekly Report, 10(10), 75-82.

Unadjusted gender pay gap by age groups broken down by countries shows high heterogeneity (Table 4.14). There is no surprise that pay gap is rather low for the youngest age group but data for some countries show that young girls earn, on average, more than young boys – Spain or Netherlands. Other few exceptions deviating from average are the Slovak Republic (11,3 %), Poland (10,6 %) or Slovenia with 10,2 % gender pay gap among teenagers. For one category older group (20-29), Baltic countries show high gender pay gap in favour of men suggesting, that higher returns on education and experience in the labor market entry are much higher for men than women. On the contrary, Netherlands shows little but still a gender pay gap in favour of women, moreover in both mentioned age groups. However, with increasing age, the maternity duties hit Dutch women hard and the pay gap increases substantially to one of the highest values in our sample (24,7 % for 50-59 years old age group). Sharp rise in the gender pay gap could be observed also in Germany, where across 30 years of age (from group 20-29 to 50-59) the gender pay gap rises nearly 4 times from 7,9 % to 28 %. Perfect example of a reversed U-shaped relationship between gender pay gap and age is the Slovak Republic. In this country, the pay gap shows high values in favour of men for all age groups, rising sharply in the younger groups and then falling sharply in the older ones.

Table 4.15: Unadjusted Gender Pay Gap, by sector, cross-country, 2018

Sector	Men	Women	Difference	T-Test
Mining And Quarrying	2,48	2,50	-1,8%	***
Manufacturing	2,57	2,18	38,5%	***
Electricity, Gas, Steam And Air Conditioning Supply	2,56	2,49	6,7%	***
Water Supply; Sewerage, Waste Management	2,48	2,37	11,0%	***
Construction	2,43	2,39	3,9%	***
Wholesale And Retail Trade; Repair Of Motor Veh. And Motorcycles	2,44	2,23	20,4%	***
Transportation And Storage	2,38	2,39	-1,0%	***
Accommodation And Food Service Activities	2,20	2,10	9,6%	***
Information And Communication	2,92	2,68	24,0%	***
Financial And Insurance Activities	3,11	2,75	35,7%	***
Real Estate Activities	2,33	2,23	9,7%	***
Professional, Scientific And Technical Activities	2,88	2,62	25,5%	***
Administrative And Support Service Activities	2,36	2,29	6,3%	***
Education	2,79	2,58	21,1%	***
Human Health And Social Work Activities	2,76	2,62	14,0%	***
Arts, Entertainment And Recreation	2,35	2,17	17,5%	***
Other Service Activities	2,59	2,46	13,3%	***

Source: SES 2018, own calculations. Where is the difference positive, males are exhibiting higher wages than females, at the mean, and vice versa. *** p<0.01, ** p<0.05, * p<0.1 significance of the T-test of a means difference.

Interestingly, there are some countries where wages of old people are in favour of women (60+ age group) – Romania (-9,9 %), Poland (-9,7 %), Slovenia (-4,6 %) or Bulgaria (-

4,2 %). We can see that these are all countries of former Eastern Bloc and Yugoslavia, where social systems tend to be more solidary. On the other side of the scale, there are countries where solidarity system is favouring men. In France, for example, old men earn, on average, 25,9 % more than women. Situation is very similar in Finland (22,6 %) or in southern Mediterranean countries like Spain (19,3 %) or Greece (18,4 %), however in these countries, women are very likely to have lower lifelong earnings due to the importance of household and maternity duties in their culture. The statistical significance of differences in average wages of men and women were tested via paired t-test and proved to be of high statistical significance.

In the previous subchapters (4.1 and 4.2) we proved that horizontal segregation persists in all European countries and more than 30 % of all people would need to change their jobs in order to erase the segregation. Although, differences between countries are remarkable. Sectoral segregation has important influence over the gender pay gap also. Numerous research articles proved that economic activity of a worker is significant driver of a gender pay gap (Hedija, 2017²⁷²; Leythienne and Ronkowski, 2018²⁷³; Mavrikiou and Angelovska, 2020²⁷⁴). Women and men frequently work in distinct industries that are valued unequally, which has an impact on gender wage inequality. Table 4.15 provides results for unadjusted gender pay gap by sector and for selected European countries as a cross-country sample. Only two sectors showed the gender pay gap in favour of women (Mining and Quarrying and Transportation and Storage), however, these industries are strongly male-dominated meaning that the number of women in these industries is very low. Women in these sectors tend to be employed mainly as administrative workers, who have, on average, higher wages than men workers in lower positions. However, as we stated, the average wage of women is biased upwards because of low number of women in the industry. The same applies for Construction sector even though the gender pay gap is favouring men. For all other sectors the gender pay gap is inclined to the side of men suggesting not only strong sectoral but also occupational segregation. The sectors in which women make up the largest portion of the workforce are also among the lower paid. They are also paid less than their male co-workers even within these positions. Since there are identified strong female-dominated sectors, we can say that the glass escalator effect is strong in them. This means, that men have much easier way to top-management positions throughout

²⁷² Hedija, V. (2017). Sector-specific gender pay gap: evidence from the European Union Countries. *Economic research-Ekonomska istraživanja*, 30(1), 1804-1819.

²⁷³ Leythienne, D., & Ronkowski, P. (2018). A decomposition of the unadjusted gender pay gap using Structure of Earnings Survey data. Luxembourg: Publications Office of the European Union.

²⁷⁴ Mavrikiou, P. M., & Angelovska, J. (2020). The impact of sex segregation by economic activity on the gender pay gap across Europe. *UTMS Journal of Economics*, 11(1).

their careers than women since the gender pay gap is even in these sectors highly favouring men – 21,1 % in Education, 14 % in Human health or 13,3 % in Service activities meaning that even though the number of men in these sectors is relatively low, they are employed in the higher hierarchical positions undervaluing women's work. The main causes of this inherent undervaluation of women's work are two things (Mavrikiou and Angelovska, 2020)²⁷⁵. Firstly, unpaid care (children), education and housework are highly responsible for channelling women into sectors of the labor market similar to these duties. Secondly, literature suggests that there exists a phenomenon called the selection effect. In addition to the fact that women prefer particular types of employment, the selection effect suggests that employers prefer men over women by not changing the workplace to accommodate both genders (Petersen and Snartland, 2004)²⁷⁶ suggesting potential discriminating conducts.

Table 4.16 shows the unadjusted gender pay gap by sectors broken down by examined countries. The results show that across the European countries, there is high heterogeneity in the labor markets. Sectors Information and Communication and Financial and Insurance Activities, however, show homogeneity across all countries being the sectors with the highest gender pay gap ranging from 9,4 % in Sweden to 30,7 % in Poland for Information and Communication sector and even higher variation in Financial and Insurance Activities ranging from 6,6 % in Belgium to 37,2 % in Czech Republic. Both sectors favouring men. This is phenomenon persisting for a long time in these industries. Krchová and Höesová (2021)²⁷⁷ argue that rapid growth of the ICT sector is a by-product of a digital transformation. However, they identified two challenges of the sector – lack of ICT Professionals and underrepresentation of women. Results for sector F – Construction – support the above-mentioned cross-country sample results. In most countries gender pay gap favours women, but the sector is highly male-dominated with low female representation ranging from 5 % in Romania to 15 % in Germany (Table 4.1). The same applies for sector H – Transportation and Storage or E – Water Supply, sewerage, waste management and remediation. Typical female-dominated sector like Education (P) shows high gender pay gap in favour of men ranging from -0,8 % in Lithuania to 21,5 % in the Czech Republic supporting the explanation about underrepresentation of men in this sector but having them employed in the higher positions

²⁷⁵ Mavrikiou, P. M., & Angelovska, J. (2020). The impact of sex segregation by economic activity on the gender pay gap across Europe. *UTMS Journal of Economics*, 11(1).

²⁷⁶ Petersen, T., & Snartland, V. (2004). Firms, wages, and incentives: Incentive systems and their impacts on wages, productivity, and risks. *Research in Social Stratification and Mobility*, 21, 253-286.

²⁷⁷ Krchová, H., & Höesová, K. Š. (2021). Selected determinants of digital transformation and their influence on the number of women in the ICT sector. *Entrepreneurship and Sustainability Issues*, 8(4), 524.

suggesting strong glass ceiling effect. This effect is even stronger for another female-dominated sector – Human health services (Q), where the gender pay gap is even higher ranging from 2,2 % in Belgium to 24,9 % in Estonia. There are also sectors with fairly even distribution of men and women, for example, Accommodation and food service activities (I) mainly related to tourism industry, Real estate activities (L) or Administrative and support service activities (N) where gender pay gap shows lower values than highly-segregated sectors meaning that more equal representation of men and women in the sector brings equal wages and horizontal segregation brings disparity in wages too.

Table 4.16: Unadjusted Gender Pay Gap, by sector and country, 2018

Country	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S
Belgium	-3,9	12,0***	7,0***	13,6***	8,4***	10,5***	3,9***	2,9***	11,6***	6,6***	10,0***	5,4***	7,9***	3,6	2,2***	1,0	4,8***
Bulgaria	13,9***	18,2***	16,4***	6,8***	-10,1***	9,3***	-4,0	6,5***	20,6***	17,9***	-2,0	12,7***	-22,2***	6,6***	21,3***	10,7***	3,5***
Czech Republic	15,5***	23,3***	17,1***	8,6***	4,9***	17,2***	1,8***	6,3***	30,5***	37,2***	5,7***	24,0***	5,1***	21,5***	16,2***	10,0***	10,3***
Germany	10,4***	29,2***		10,5***	17,2***	20,4***	1,7***	6,3***	29,3***	35,1***		24,1***	13,2***	20,4***	18,2***		12,2***
Denmark	18,4***	11,4***	19,9***	3,8***	11,0***	16,5***	6,3***	5,1***	17,7***	16,9***	6,1***	19,5***	-0,7***	5,6***	7,5***	8,0***	9,4***
Estonia	37,1***	29,3***	15,8***	8,7***	10,3***	27,6***	-2,9***	14,2***	24,0***	36,1***	3,9***	13,3***	11,6***	12,7***	24,9***	17,5***	7,9***
Greece	15,7	18,4***	19,4	10,8***	13,1**	16,2***	21,3***	2,3	23,0***	13,5***	19,1***	20,3***	1,6	9,0***	11,8***	1,1	10,0***
Spain	8,3***	19,1***	35,2***	15,7***	-5,0***	15,7***	1,9***	6,9***	15,2***	20,9***	14,9***	21,6***	13,5***	12,3***	20,2***	10,4***	20,8***
Finland	11,3***	8,5***	17,9***	1,7	4,2**	18,3***	7,1***	9,1***	12,5***	32,3***	16,3***	15,4***	12,0***	12,1***	15,4***	8,4***	14,8***
France	0,3	14,3***	7,9***	0,8	-5,8	18,5***	1,0***	7,8***	15,8***	29,8***	9,2***	19,6***	6,2***	12,6***	10,6***	13,9***	7,5***
Croatia	4,0	23,6***	-1,5***	-1,9	-16,7***	19,0***	-1,0**	12,0***	11,9***	21,8***	8,2***	13,7***	5,1**	12,6***	15,6***	16,6***	36,7***
Hungary	8,8	21,3***	17,9***	-0,8	-6,5***	7,0***	-5,7***	11,7***	21,2***	33,3***	1,2***	17,0***	10,7***	5,5***	6,9***	13,5***	17,4***
Italy	0,2***	14,5***	13,4***	4,7***	6,4***	12,8***	6,7***	6,4***	15,6***	20,9***	11,5***	20,6***	8,4***	4,7***	19,3***	29,2***	7,9***
Lithuania	11,0**	22,3***	7,3	12,1**	-6,4*	15,6***	-15,6***	12,5***	22,1***	32,9***	0,8**	16,4***	6,6	-0,8	19,8***	10,2***	2,7
Latvia	12,6***	18,2***	10,1***	14,2***	4,1***	21,4***	5,1***	16,0***	25,8***	32,6***	11,3***	10,0***	11,3***	8,3***	10,1***	14,6***	4,2***
Netherlands	15,9**	21,9***	15,6***	9,4***	12,2***	22,9***	12,0***	2,8***	19,7***	30,8***	22,4***	23,1***	8,5***	6,9***	17,4***	8,5***	21,1***
Norway	5,6***	10,9***	12,0***	-4,0***	-0,4*	17,7***	5,4***	6,6***	14,0***	26,4***	15,0***	18,9***	8,4***	6,1***	7,3***	9,8***	14,5***
Poland	23,3***	18,5***	6,6***	1,3	-10,0***	21,1***	-9,6***	6,7***	30,7***	27,6***	5,1***	14,4***	-1,0***	6,3***	6,4***	7,1***	24,3***
Portugal	-7,0	23,6***	-0,7	-23,1***	-8,6***	12,4***	-15,9***	12,5***	11,7***	20,1***	-3,5	14,2***	6,4***	19,8***	24,0***	25,5***	28,4***
Romania	-4,7***	20,3***	10,6	1,7**	-15,6***	11,7***	-6,9***	5,5***	22,6***	33,8***	1,1	2,5*	-17,0***	0,9***	9,5***	12,4***	22,8***
Sweden	7,9	3,9***	11,0***	-1,3	2,6	11,0***	1,0***	5,3***	9,4***	21,1***	4,1***	11,4***	2,3***	7,5***	5,5***	8,0***	6,8***
Slovenia	15,4***	16,0***	-0,5	-15,1***	-14,7***	16,3***	-24,0***	8,2***	13,0***	21,1***	16,7***	9,8***	11,9***	13,6***	13,8***	3,4***	-2,3***
Slovak Republic	23,3***	26,3***	16,3*	2,3***	11,0***	20,3***	4,3***	8,1***	25,8***	34,7***	13,9***	16,6***	3,0***	11,4***	19,3***	17,1***	-11,4***

Source: SES 2018, own calculations. Where is the difference positive, males are exhibiting higher wages than females, at the mean, and vice versa. *** p<0.01, ** p<0.05, * p<0.1 significance of the T-test of a means difference. Blank means missing data. B - Mining and quarrying, C - Manufacturing, D - Electricity, gas, steam and air-conditioning supply, E - Water supply, sewerage, waste management and remediation, F - Construction, G - Wholesale and retail trade, repair of motor vehicles and motorcycles, H - Transportation and storage, I - Accommodation and food service activities, J - Information and communication, K - Financial and insurance activities, L - Real estate activities, M - Professional, scientific and technical activities, N - Administrative and support service activities, P - Education, Q - Human health services, R - Arts, entertainment and recreation, S - Other Service Activities

Looking at gender pay gap by occupational distribution of men and women shows that at all occupations men earn more than women (Table 4.17). Results are similar for both datasets used. The gender pay gap is positively associated with skill level requirements of occupations, as we can see that Managers and Professionals show very high differences in wages of men and women. This means that there indeed exists a glass ceiling effect preventing women from advancing higher hierarchical positions. Occupations on the middle skill requirements – Clerical support workers, Service and sales workers - show the lowest gender pay gap (9,5 % and 3 %, respectively). This could be explained by the assumption that people in these occupations tend to be similar educated and experienced. Therefore, we might think of them as nearly perfect substitutes. Interesting numbers are calculated for occupational category Craft and related trades workers, where the wages of men are, on average, 43,3 % higher than those of women. Occupations with low skill requirements in occupational category Elementary occupations show a little difference in wages. In this group of occupations there are working people that can be considered as perfect substitutes. Characteristic workers in these occupations are low educated people with rather low experience working for the lowest wages in the labor market. The statistical significance of differences in average wages of men and women were tested via paired t-test and proved to be of high statistical significance.

Table 4.17: Unadjusted Gender Pay Gap, by occupation, 2018-2020

Occupation	SES				EU-SILC			
	Men	Women	Diff.	T-Test	Men	Women	Diff.	T-Test
Managers	3,12	2,80	32,3%	***	2,84	2,76	8,0%	***
Professionals	2,99	2,72	26,8%	***	2,92	2,68	24,3%	***
Technicians and associate professionals	2,78	2,62	15,5%	***	2,68	2,54	13,7%	***
Clerical support workers	2,55	2,45	9,5%	***	2,49	2,37	11,7%	***
Service and sales workers	2,25	2,22	3,0%	***	2,15	2,06	9,5%	***
Skilled agric., forest. and fish. workers	2,44	2,30	14,1%	***	2,10	1,91	19,4%	***
Craft and related trades workers	2,40	1,97	43,3%	***	2,18	1,75	42,7%	***
Plant and machine oper. and assemblers	2,27	2,0	27,2%	***	2,17	1,86	31,1%	***
Elementary occupations	2,16	2,1	6,3%	***	2,05	1,99	6,1%	***

Source: SES 2018, EU-SILC 2020, own calculations. Where is the difference positive, males are exhibiting higher wages than females, at the mean, and vice versa. *** p<0.01, ** p<0.05, * p<0.1 significance of the T-test of a means difference.

Heterogeneity of gender pay gap by occupation among the examined countries is shown in Table 4.18. Results show high heterogeneity in the high-skilled occupational groups. Managerial occupations in Italy suffer from very high gender pay gap (38,6 %) but on the contrary in Lithuania the wages are almost equal (1,1 %). In most countries, the magnitude of gender pay gap is more than 20 % suggesting strong glass ceiling effect with disproportionate

wages between men and women. Professionals occupational group shows similar high heterogeneity with values ranging from 3,6 % in Belgium to 33 % in Bulgaria and like in previous group, several countries have gender pay gap higher than 20 % - Czech Republic, Germany, Estonia, Latvia, Hungary or France. Regarding occupations 400 – 600, gender pay gap in these occupational groups belongs to the lowest in examined countries, in some cases even favouring women. The same can be said about the groups 800 and 900 (low-skilled requirements), but not about group 700 - Craft and related trades workers, where gender pay gap is still very high. Even though the heterogeneity among examined countries is high, the states of labor markets are very similar across the whole Europe.

Table 4.18: Unadjusted Gender Pay Gap, by occupation and country, 2018

Country	100	200	300	400	500	600	700	800	900
Belgium	9,5***	3,6***	3,7***	1,3***	2,0***		13,2***	14,5***	6,8***
Bulgaria	13,1***	33,0***	10,0***	9,9***	-1,3***	-1,0	21,0***	3,7***	-0,4***
Czech Republic	25,7***	24,1***	13,8***	13,2***	2,6***	9,3***	19,7***	11,3***	14,0***
Germany	24,1***	22,6***	23,8***	6,7***	7,8***	7,0***	22,7***	14,2***	8,1***
Denmark	19,3***	18,8***	16,9***	2,6***	-2,3***	7,5***	17,9***	8,8***	14,0***
Estonia	8,4***	22,9***	16,5***	14,5***	9,2***	23,7***	27,6***	18,5***	22,2***
Greece	19,7***	11,1***	17,6***	5,9***	8,2***		28,9***	28,7***	8,3***
Spain	13,2***	10,8***	15,5***	14***	10,6***	18,3***	19,8***	14,0***	10,9***
Finland	25,2***	15,3***	19,1***	4,0***	6,0***	1,4	12,6***	15,4***	15,2***
France	22,6***	23,6***	12,8***	4,5***	8,6***	12,5*	16,9***	14,6***	7,0***
Croatia	30,0***	18,1***	10,7***	6,0***	14,4***	-0,7	30,9***	25,2***	22,2***
Hungary	14,2***	25,4***	15,8***	17,5***	2,7***	-2,8	16,0***	8,4***	6,6***
Italy	38,6***	8,8***	12,9***	10,1***	5,6***	-1,3	21,6***	16,4***	10,8***
Lithuania	1,1	16,4***	15,3***	15,1***	6,5***	16,3***	10,4***	1,2***	10,6***
Latvia	7,0***	28,3***	17,4***	20,3***	17,3***	7,8***	25,7***	17,1***	21,3***
Netherlands	21,8***	10,6***	13,3***	6,9***	5,4***	14,8***	25,3***	15,5***	-6,0***
Norway	19,1***	17,4***	20,7***	3,4***	-1,1***	18,5***	13,5***	11,3***	7,4***
Poland	23,9***	10,8***	20,2***	4,6***	7,4***	0,4	21,3***	13,3***	15,6***
Portugal	24,0***	7,2***	10,0***	1,0***	7,8***	1,3**	21,6***	23,3***	7,2***
Romania	3,8	13,2***	9,7***	10,8***	-2,0***	-10,6***	17,1***	10,1***	4,8***
Sweden	15,9***	13,7***	17,2***	1,3***	2,0***	4,5***	12,7***	4,1***	10,0***
Slovenia	4,8***	14,6***	11,3***	0,1	11,4***	4,8	15,0***	15,9***	16,2***
Slovak Republic	16,3***	22,4***	20,3***	11,4***	9,1***	5,5***	23,6***	13,5***	18,7***

Source: SES 2018, own calculations. Where is the difference positive, males are exhibiting higher wages than females, at the mean, and vice versa. *** p<0.01, ** p<0.05, * p<0.1 significance of the T-test of a means difference. Blank means missing data. 100 – Managers, 200 – Professionals, 300 - Technicians and associated professionals, 400 - Clerical support workers, 500 - Service and sales workers, 600 - Skilled agricultural, forestry and fishery workers, 700 - Craft and related trades workers, 800 - Plant and machine operators and assemblers, 900 - Elementary occupations

4.4 Adjusted gender pay gap

In the previous subchapter, we proved that gender pay gap is important and vast problem of the labor markets in every examined country. We studied the unadjusted gender pay gap and showed the unpleasant results of gender segregation in remuneration. However, as stated before, the unadjusted gender pay gap in fact is rather complex indicator suitable for international comparisons but does not control for the differences in individual or labor market characteristics. To be able to take these characteristics into account, we need to “adjust” the unadjusted gender pay gap. The overall goal of “adjusting” the gender pay gap is to account for a variety of personal traits that could differ between men and women and could, thus, contribute to the gender pay gap. This might be crucial when comparing the gender pay gap among the examined European countries since men and women may have similar levels of education, job experience, and training but might be different in other individual traits (Grimshaw and Rubery, 2002)²⁷⁸. Moreover, labor market structures are not the same in each country, therefore controlling for labor market characteristics is very important and provides the accuracy in comparing the like-for-like.

Table 4.19: Adjusted Gender Pay Gap, cross-country, 2018-2020

Variables	SES					EU-SILC				
	Unadjusted GPG	Adj. for individual char.	Adj. for labor market char.	Adj. for both char.	Adj. for both char. and country dummies	Unadjusted GPG	Adj. for individual char.	Adj. for labor market char.	Adj. for both char.	Adj. for both char. and country dummies
Gender	-0.126*** (0.000)	-0.202*** (0.000)	-0.192*** (0.000)	-0.234*** (0.000)	-0.112*** (0.000)	-0.089*** (0.005)	-0.199*** (0.005)	-0.198*** (0.006)	-0.234*** (0.005)	-0.142*** (0.003)
Individual ch.	NO	YES	NO	YES	YES	NO	YES	NO	YES	YES
Labor ch.	NO	NO	YES	YES	YES	NO	NO	YES	YES	YES
Country dum.	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES
Observations	12 498 260	12 498 260	12 498 260	12 498 260	12 498 260	84 196	83 986	83 655	83 449	83 449
R ²	0.008	0.160	0.195	0.251	0.785	0.003	0.182	0.203	0.274	0.768

Source: SES 2018, EU-SILC 2020, own calculations. Standard errors in parentheses. Dependent variable is a logarithm of hourly wages. *** p<0.01, ** p<0.05, * p<0.1.

Table 4.19 provides the results for adjusted gender pay gap for cross-country sample. Both datasets show similar results. There are 5 different model specifications estimated. First columns show unadjusted gender pay gap, methodologically similar to previous gender pay gaps studied. Second columns control for personal characteristics like age, education, tenure, contract type and hours worked. Next models include labor market characteristics only (occupation, sector, firm size and ownership). Fourth models include both personal and labor

²⁷⁸ Grimshaw, D., & Rubery, J. (2002). The adjusted gender pay gap: a critical appraisal of standard decomposition techniques. Manchester School of Management, UMIST, Manchester, UK.

market characteristics and last model also includes country dummies to control unobserved heterogeneity across all examined countries specific for each country.

First column shows unadjusted gender pay gap with values ranging from 8,9 % to 12,6 %, depending on the dataset used. Coefficients of determination are, however, very small suggesting that the variation in the wage difference is not properly explained by only simple linear regression. After controlling the individual characteristics, gender pay gap nearly doubles in SES dataset and more than doubles in EU-SILC dataset. This means that employed women have better characteristics needed in the labor market than men, though their wages are significantly lower. In previous subchapter, we proved that women have higher education (Figure 4.8) which is now reflected in the estimated gender pay gap. If women and men had similar personal characteristics cross-sample gender pay gap would be about 20 %. Very similar but a little lower result is obtained if we adjust gender pay gap for labor market characteristics (19,2% and 19,8 %, respectively). This implies that sectoral and occupational segregation is strong in the labor markets in examined countries. Women tend to be employed in feminine sectors and occupations which are paid lower wages. Adjusting gender pay gap for both individual and labor market characteristics inflates the magnitude of gender pay gap (23,4 %). This suggests that some interplay between adjusted characteristics exists, confirming the sectoral and occupational segregation assumption probably by education. Including dummy variables for each country lowers gender pay gap significantly (11,2 % or 14,2 %, respectively) implying that there is high heterogeneity between examined countries and also number of unobserved variables that we did not consider. Among them might be for example wage setting, which is different for each country but also union density which might play a significant role in balancing wages between men and women. This is also confirmed by high coefficient of determination suggesting that our models explain almost 80 % of variation of gender pay gap.

Table 4.20: Adjusted Gender Pay Gap (Heckman-corrected), cross-country, 2020

Variable	Unadjusted GPG	Adjusted for individual char.	Adjusted for labor market char.	Adjusted for both char.	Adjusted for both char. and country dummies
Gender	-0.110*** (0.009)	-0.237*** (0.008)	-0.190*** (0.010)	-0.228*** (0.009)	-0.152*** (0.005)
Individual char.	NO	YES	NO	YES	YES
Labor market char.	NO	NO	YES	YES	YES
Country dummies	NO	NO	NO	NO	YES
First-stage Probit regressions					

Dependent variable: Employment Status (Employed = 1)

Gender	-0.283*** (0.024)	-0.249*** (0.025)	-0.261*** (0.026)	-0.260*** (0.027)	-0.249*** (0.027)
Age	0.106*** (0.024)	0.137*** (0.014)	0.126*** (0.019)	0.145*** (0.015)	0.180*** (0.008)
Age ²	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.002*** (0.000)
Secondary (ISCED 3-4)	0.297*** (0.028)	0.356*** (0.034)	0.257*** (0.031)	0.338*** (0.035)	0.250*** (0.038)
Tertiary (ISCED 5-8)	0.694*** (0.040)	0.260*** (0.041)	0.308*** (0.041)	0.250*** (0.042)	0.247*** (0.039)
Married	0.228*** (0.036)	0.217*** (0.033)	0.177*** (0.036)	0.176*** (0.035)	0.107*** (0.035)
Cohabiting	0.311*** (0.041)	0.351*** (0.040)	0.307*** (0.041)	0.319*** (0.042)	0.166*** (0.046)
Number of children	-0.086*** (0.008)	-0.110*** (0.008)	-0.103*** (0.009)	-0.114*** (0.009)	-0.080*** (0.010)
Constant	-1.231*** (0.410)	-1.418*** (0.239)	-1.380*** (0.328)	-1.657*** (0.258)	-2.306*** (0.153)
Rho	-0.915***	-0.809***	-0.880***	-0.827***	-0.118***
Sigma	0.869***	0.772***	0.769***	0.727***	0.395***
Lambda	-0.795***	-0.624***	-0.677***	-0.602***	-0.046***
Wald-Chi	162.83	9061.02	7352.30	11149.32	179914.29
Prob > chi2	0.000	0.000	0.000	0.000	0.003
Observations	116,601	114,714	93,848	93,635	93,635

Source: EU-SILC 2020, own calculations. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Adjusted gender pay gap from Table 4.18 is computed only for employed people and therefore might be biased by not including unemployed people in our sample. Unemployed people might have better characteristics than employed and in case of change of their employment status, they might lower the gender pay gap. Availability of EU-SILC data on a micro level allows us to include unemployed people, who do not earn any wages in our dataset. In this way, we can compute gender pay gap in a hypothetical situation where we take account for people who are not currently wage earners and say what would happen in the labor market if these people change their status from unemployed to employed. The procedure is called Heckman sample correction. Table 4.20 shows the results of adjusted gender pay gap after implementing the sample correction and also the first-stage probit regression which shows the contribution of each variable to probability of being employed or not. The results show that gender pay gap is, in all model specifications, higher if sample corrected than in the case of taking into account only employed people. Unadjusted gender pay gap rose from 8,9 % to 11 % but even higher increase is noted in case of controlling for personal characteristics – from 19,9 % to 23,7 %. This means that if unemployed women got employed, gender pay gap would

be even higher suggesting that unemployed women have better personal characteristics than unemployed men. This fact suggests that there is significant waste of human capital in form of unemployed people, especially women. Adjusting gender pay gap only for labor market characteristics shows persistent gap at about 19 % suggesting that even if women became employed, they would occupy the positions with lower wages or hierarchical positions. Including both personal and labor market characteristics shows that there is indeed interplay between both types of characteristics. Gender pay gap rose to 22,8 % showing that education and experience is intertwined with positions that women tend to occupy meaning that women choose their occupation by the education field they finished or vice versa. After including the dummy variables for each country, which control unobserved heterogeneity, gender pay gap decreased to 15,2 % but being still very high in favour of men.

It is important to identify the contribution of a variables to probability of being employed or not. Second part of the Table 4.19 shows first-stage probit regressions. The results show that women have on average 24,9 – 28,3 % lower probability of being employed just because of their gender suggesting high discrimination practices in the labor markets. Age contributes to the probability of being employed in a concave shape, as expected. Education is a significant contributor to the employment status with people who have finished secondary level education have on average 25 – 35,6 % higher probability of being employed than people with primary education, being reference group. In case of tertiary education, the gap is even higher with 24,7 – 69,4 % higher probability. Regarding household characteristics, married people have 10,7 – 22,8 % higher probability of being employed than single people. This is caused likely by the fact that married people both need to contribute to the household treasury, but it is also dependent on the amount of income of both spouses. The probability is even higher if people are cohabitants – more than 30 %. Unsurprisingly, children are a barrier to entry to the labor market and are lowering a probability of being employed by about 8 to 11,4 %. Heckman sample correction procedure provides us also a result for Inverse Mills Ratio (Lambda). The Inverse Mills Ratio of a distribution measures the probability density function over the cumulative distribution function (Filippin, 2019)²⁷⁹. Positive selection occurs when the Inverse Mills Ratio coefficient is positive, and negative selection in the opposite situation. If negative selection occurs, model estimates are downward-biased, whereas if positive selection occurs, model estimates are upward-biased. In our results the Inverse Mills Ratio is negative and

²⁷⁹ Filippin, M. E. (2019). Gender pay gap: a route from the North to the South of Italy (No. 176). University of Pavia, Department of Economics and Management.

significant in all models. This means that there is negative selection into the labor market, which means that people who are not in the labor market have a potential to earn more than now-employed workers in the labor market. If one chooses to enter the workforce, there is a pool of potential workers who could be able to earn higher wages. According to the Wald chi-square test, the connection between the error terms in the selection equation and the wage equation is highly significant, indicating that Heckman's technique produces better results than traditional OLS approach.

To see if there is an important outlier among examined countries, we estimated adjusted gender pay gap in each country. Breaking down by countries also allows us to identify the contribution of personal and labor market characteristics in each country. Table 4.21 shows the results of adjusted gender pay gap by country for both SES and EU-SILC datasets. The results are very similar across both datasets, however, gender pay gap among countries vary significantly. For example, in Belgium, if accounted for human capital characteristics, gender pay gap is almost non-existent (decreasing from unadjusted 6,6 %), suggesting that women and men in Belgium have very similar personal characteristics. Conversely, accounting for labor market structure, gender pay gap is persistent at about 4,6 % or 1,5 % with controlling for both characteristics implying that sectoral and occupational segregation is a main force of gender pay gap. Very similar situation can be observed in Germany or Netherlands. EU-SILC data show higher gender pay gap implying that sample selection problem might be present. We deal with sample selection problem in the next lines. Interesting results are shown for the Czech Republic where gender pay gap seem to be stable in all model specifications (13 – 16 % in SES or almost double that size in EU-SILC) meaning that individual or labor market characteristics do not have power to explain the differences in wages of men and women and there exist other factors that affect wages (for example unions). Similar situation could be observed in Spain, Latvia or the Slovak Republic. On the other hand, there are countries where gender pay gap increases substantially after controlling for individual characteristics. For example, Bulgaria or Hungary where it more than doubles (7,2 % to 14,9 % or 7,9 % to 13,6 %, respectively) or countries like Poland (6,4 % to 18,4 %), Portugal (7,1 % to 19 %) or Slovenia (5,5 % to 15,1 %) where it increases three times in magnitude. This implies that women in these countries have much better observable characteristics, e.g., higher education attained, but returns from them are considerably lower than for men. The same applies in case of labor market characteristics. Where gender pay gap is higher, if adjusted for labor market characteristics, there women tend to be employed in sectors and occupations with lower returns than for men suggesting that glass

ceiling and sticky floor effects are persistent and conversely, where gender pay gap lowers, after controlling for labor market characteristics, there is high possibility of women being discriminated from entering occupations where they would earn higher wages. Or women deliberately apply for jobs which provide them lower wages but are more suitable for them.

Table 4.21: Adjusted Gender Pay Gap, by country, 2018-2020

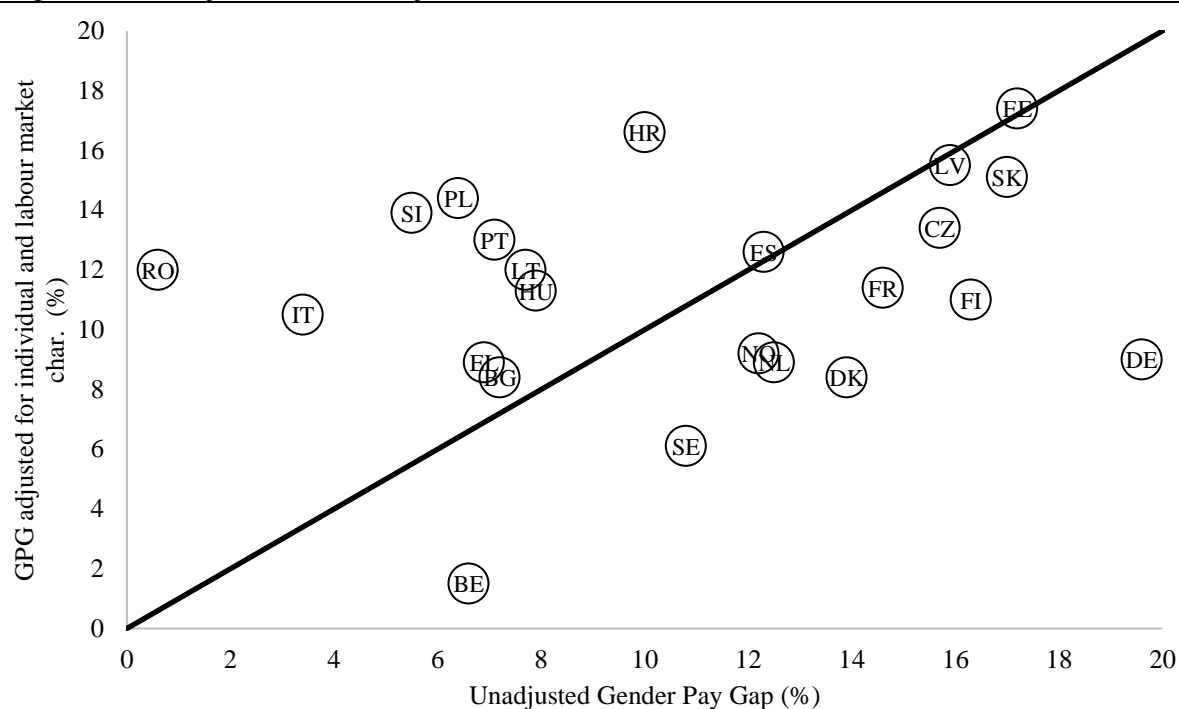
Country	SES				EU-SILC			
	Unadjusted GPG	Adjusted for individual char.	Adjusted for labor market char.	Adjusted for both char.	Unadjusted GPG	Adjusted for individual char.	Adjusted for labor market char.	Adjusted for both char.
Belgium	-0.066*** (0.002)	-0.005*** (0.001)	-0.046*** (0.001)	-0.015*** (0.001)	-0.094*** (0.014)	-0.147*** (0.013)	-0.089*** (0.014)	-0.116*** (0.013)
Bulgaria	-0.072*** (0.002)	-0.149*** (0.002)	-0.080*** (0.002)	-0.084*** (0.002)	-0.076*** (0.018)	-0.199*** (0.016)	-0.158*** (0.017)	-0.189*** (0.017)
Czech Republic	-0.157*** (0.001)	-0.154*** (0.001)	-0.141*** (0.001)	-0.134*** (0.000)	-0.246*** (0.011)	-0.247*** (0.010)	-0.249*** (0.011)	-0.241*** (0.011)
Germany	-0.196*** (0.001)	-0.078*** (0.001)	-0.122*** (0.001)	-0.090*** (0.001)				
Denmark	-0.139*** (0.001)	-0.157*** (0.000)	-0.079*** (0.000)	-0.084*** (0.000)	-0.054*** (0.015)	-0.095*** (0.014)	-0.057*** (0.015)	-0.072*** (0.015)
Estonia	-0.172*** (0.003)	-0.191*** (0.002)	-0.180*** (0.003)	-0.174*** (0.002)	-0.127*** (0.017)	-0.195*** (0.016)	-0.179*** (0.016)	-0.189*** (0.016)
Greece	-0.069*** (0.006)	-0.097*** (0.004)	-0.101*** (0.004)	-0.089*** (0.004)	-0.037*** (0.012)	-0.095*** (0.010)	-0.085*** (0.011)	-0.087*** (0.010)
Spain	-0.123*** (0.002)	-0.155*** (0.002)	-0.123*** (0.002)	-0.126*** (0.002)	-0.079*** (0.012)	-0.147*** (0.011)	-0.124*** (0.011)	-0.134*** (0.011)
Finland	-0.163*** (0.001)	-0.192*** (0.001)	-0.099*** (0.001)	-0.110*** (0.001)	-0.088*** (0.013)	-0.133*** (0.012)	-0.053*** (0.013)	-0.079*** (0.012)
France	-0.146*** (0.002)	-0.155*** (0.002)	-0.110*** (0.002)	-0.114*** (0.002)	-0.123*** (0.012)	-0.138*** (0.011)	-0.084*** (0.011)	-0.092*** (0.011)
Croatia	-0.100*** (0.003)	-0.178*** (0.003)	-0.159*** (0.003)	-0.166*** (0.003)	-0.199*** (0.014)	-0.259*** (0.012)	-0.214*** (0.013)	-0.218*** (0.013)
Hungary	-0.079*** (0.001)	-0.136*** (0.001)	-0.118*** (0.001)	-0.113*** (0.001)	-0.121*** (0.017)	-0.201*** (0.016)	-0.165*** (0.016)	-0.179*** (0.016)
Italy	-0.034*** (0.002)	-0.079*** (0.002)	-0.119*** (0.002)	-0.105*** (0.001)				
Lithuania	-0.077*** (0.005)	-0.151*** (0.004)	-0.118*** (0.005)	-0.120*** (0.005)	-0.176*** (0.019)	-0.234*** (0.017)	-0.250*** (0.019)	-0.242*** (0.019)
Latvia	-0.159*** (0.003)	-0.213*** (0.003)	-0.151*** (0.003)	-0.155*** (0.003)	-0.212*** (0.020)	-0.282*** (0.017)	-0.207*** (0.019)	-0.207*** (0.019)
Netherlands	-0.125*** (0.003)	-0.073*** (0.002)	-0.116*** (0.002)	-0.089*** (0.002)	-0.074*** (0.013)	-0.010 (0.014)	-0.081*** (0.013)	-0.031** (0.013)
Norway	-0.122*** (0.000)	-0.118*** (0.000)	-0.097*** (0.000)	-0.092*** (0.000)	-0.120*** (0.018)	-0.176*** (0.017)	-0.118*** (0.019)	-0.131*** (0.018)
Poland	-0.064*** (0.001)	-0.184*** (0.001)	-0.132*** (0.001)	-0.144*** (0.001)				
Portugal	-0.071*** (0.003)	-0.190*** (0.002)	-0.106*** (0.002)	-0.130*** (0.002)	-0.087*** (0.013)	-0.228*** (0.010)	-0.130*** (0.011)	-0.165*** (0.010)
Romania	-0.006*** (0.002)	-0.101*** (0.002)	-0.118*** (0.002)	-0.120*** (0.002)	-0.057*** (0.012)	-0.123*** (0.010)	-0.109*** (0.011)	-0.122*** (0.010)
Sweden	-0.108*** (0.001)	-0.120*** (0.001)	-0.059*** (0.001)	-0.061*** (0.001)	-0.114*** (0.019)	-0.151*** (0.018)	-0.077*** (0.020)	-0.099*** (0.019)
Slovenia	-0.055*** (0.002)	-0.151*** (0.001)	-0.118*** (0.002)	-0.139*** (0.001)	-0.083*** (0.017)	-0.171*** (0.016)	-0.146*** (0.017)	-0.164*** (0.016)
Slovak Republic	-0.170*** (0.001)	-0.186*** (0.001)	-0.160*** (0.001)	-0.151*** (0.001)	-0.163*** (0.011)	-0.199*** (0.010)	-0.181*** (0.011)	-0.188*** (0.011)
Individual char.	NO	YES	NO	YES	NO	YES	NO	YES
Labor mar. char.	NO	NO	YES	YES	NO	NO	YES	YES

Source: SES 2018, EU-SILC 2020, own calculations. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Better view on change of gender pay gap according to the controlled characteristics is provided in Figure 4.10 which shows the scatterplot of gender pay gap adjusted for individual and labor market characteristics and unadjusted gender pay gap. We can clearly identify three groups of countries:

1. Countries with higher adjusted gender pay gap than unadjusted gender pay gap. Those are the countries that values are shown above the diagonal line meaning that after controlling the variability in personal and labor market characteristics gender pay gap increased. That suggests that women in these countries have more valuable human capital than men, e.g., are better educated, but also would earn higher wages if employed on the same positions and sectors as men are. Interesting case is Romania, where gender pay gap rose from almost non-existent (0,6 %) to 12 %, but also Italy going from 3,4 % to 10,5 %.
2. Countries with similar values for adjusted gender pay gap and unadjusted gender pay gap. Those are the countries which lie on the diagonal line meaning that after controlling the observed characteristics the situation in the labor market regarding gender pay gap does not change or change only very little. There are countries like Estonia, Spain or Latvia. In these countries, gender pay gap cannot be explained by observable characteristics but rather wage setting or union density play a significant role.
3. Countries with lower adjusted gender pay gap than unadjusted gender pay gap. Those are the countries that values are shown below the diagonal line meaning that after controlling the variability in personal and labor market characteristics gender pay gap decreased. Opposite to the first group, in these countries women have lower returns from human capital variables and tend to be more segregated to female-dominated sectors and occupation, further lowering their wages. The most prominent representative of this group is Germany, where gender pay gap falls by more than 10 percentage points after controlling the observed characteristics.

Figure 4.10: Adjusted and Unadjusted GPG, 2018



Source: SES 2018, own calculations. Both gender pay gaps are computed from hourly wages. The diagonal line means equality between unadjusted and adjusted gender pay gap. Values below the diagonal line mean that unadjusted gender pay gap is higher than adjusted and vice versa.

Similarly, to results in Table 4.20 we computed adjusted gender pay gap with Heckman sample correction but broken down by country. Table 4.22 provides the results of this analysis. First-stage probit regression are not shown due to space saving. The Inverse Mills Ratio (λ) though is shown for all regressions. With very few exceptions the values of the Inverse Mills Ratios are negative implying that negative selection occurs, and model estimates are downward-biased. This means that human capital is being wasted in these countries since unemployed people are very likely to earn higher wages if they became employed. Few exceptions are Greece, Finland, Portugal or Slovenia where the Inverse Mills Ratio is positive, however, only in models which control for individual characteristics meaning that those who are employed have better individual characteristics than unemployed ones. On the other hand, λ is negative if controlled for labor market characteristics suggesting that strong sectoral and occupational segregation occurs in these countries therefore employing of unemployed people would lower gender pay gap since they would have a tendency to be employed in positions with higher wages.

Regarding gender pay gap, the magnitude of estimated coefficient rose in comparison with the ones from studying only employed people sample. The model specifications, however, show the same trends meaning that if controlled for individual characteristics, in most countries

gender pay gap rose to a greater extent than if controlled for labor market characteristics only. This implies that unemployed people have, on average, better characteristics and have a higher probability of having higher wages than people currently employed. Adjusting for both personal and labor market characteristics show that there is interplay between them suggesting that segregation occurs based mainly on education and a choice of occupation.

Table 4.22: Adjusted Gender Pay Gap (Heckman-corrected), by country, 2020

Country	Unadjusted GPG	Adjusted for individual char.	Adjusted for labor market char.	Adjusted for both char.
Belgium	-0.112***	-0.162***	-0.108***	-0.127***
λ	-0,393***	-0,252***	-0,317***	-0,216***
Bulgaria	-0.052**	-0.189***	-0.145***	-0.180***
λ	-0,398***	-0,136***	-0,231***	-0,119***
Czech Republic	-0.238***	-0.242***	-0.249***	-0.238***
λ	-0,255***	-0,135***	-0,139***	-0,101***
Denmark	-0.086***	-0.143***	-0.094***	-0.111***
λ	-0,379***	-0,207***	-0,263***	-0,137***
Estonia	-0.130***	-0.199***	-0.179***	-0.188***
λ	-0,458***	-0,342***	-0,304***	-0,260***
Greece	-0.027*	-0.122***	-0.082***	-0.108***
λ	-0,333***	0,248***	-0,195***	0,201***
Spain	-0.064***	-0.131***	-0.117***	-0.120***
λ	-0,550***	-0,366***	-0,416***	-0,311***
Finland	-0.148***	-0.196***	-0.087***	-0.116***
λ	-0,265***	0,186***	-0,127***	0,192***
France	-0.201***	-0.223***	-0.105***	-0.111***
λ	-0,492***	-0,243***	-0,303***	-0,455***
Croatia	-0.214***	-0.270***	-0.227***	-0.230***
λ	-0,339***	-0,989***	-0,219***	-0,927***
Lithuania	-0.156***	-0.220***	-0.253***	-0.241***
λ	-0,504***	-0,354***	-0,298***	-0,269***
Latvia	-0.206***	-0.277***	-0.221***	-0.222***
λ	-0,400***	-0,171***	-0,156***	-0,122***
Netherlands	-0.147***	-0.104***	-0.131***	-0.086***
λ	-0,355***	-0,140***	-0,215***	0,176***
Norway	-0.183***	-0.235***	-0.144***	-0.164***
λ	-0,452***	-0,347***	-0,369***	-0,286***
Portugal	-0.090***	-0.241***	-0.145***	-0.177***
λ	-0,467***	0,234***	-0,220***	0,106**
Romania	-0.062***	-0.125***	-0.111***	-0.120***
λ	-0,221***	-0,611***	-0,117***	-0,646***
Sweden	-0.152***	-0.192***	-0.073***	-0.103***
λ	-0,370***	-0,248***	-0,297***	-0,185***
Slovenia	-0.106***	-0.192***	-0.153***	-0.182***
λ	-0,408***	0,251***	-0,316***	0,280***
Slovak Republic	-0.165***	-0.199***	-0.188***	-0.192***
λ	-0,179***	-0,103***	-0,139***	-0,929***

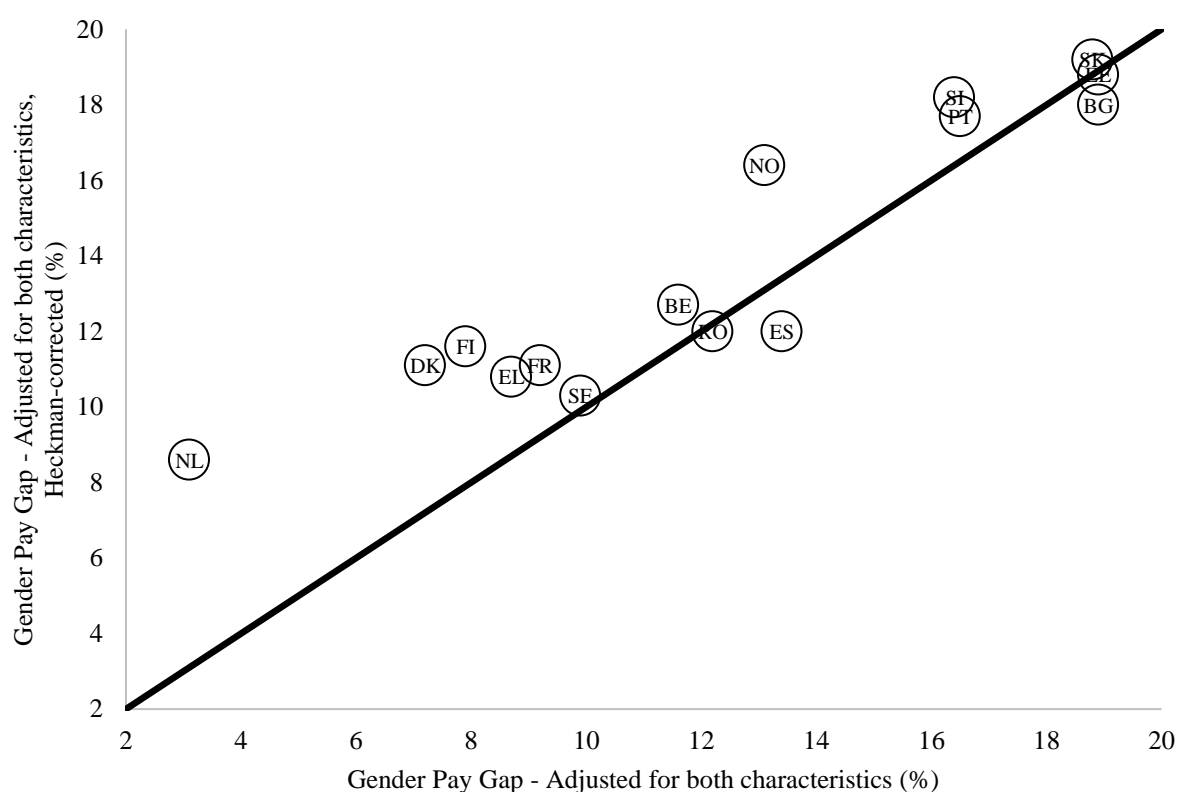
Source: EU-SILC 2020, own calculations. *** p<0.01, ** p<0.05, * p<0.1.

λ represents Inverse mills ratio for each regression.

As stated before, the magnitude of gender pay gap rose after sample correction. Figure 4.11 shows the values of both sample selection corrected and not corrected gender pay gaps

after controlling for individual and labor market characteristics. We can see that in almost every country gender pay gap rose, except Spain and Bulgaria. Interestingly, in Netherlands gender pay gap rose more than three times, similarly in Denmark, Finland, Greece or France. There are also some countries, where including unemployed people in the sample did not change the magnitude of gender pay gap. This means that employed and unemployed people have very similar attributes and if they became employed, they would occupy similar job positions as now employed people. The structure of economy would change only very little.

Figure 4.11: Adjusted gender pay gaps (Heckman-corrected vs not corrected), 2020



Source: EU-SILC 2020, own calculations. Both gender pay gaps are computed from hourly wages. The diagonal line means equality between both gender pay gaps. Values above the diagonal line mean that Heckman-corrected gender pay gap is higher than not corrected and vice versa.

4.5 Oaxaca-Blinder decomposition

Last subchapter of the Results chapter deals with the Oaxaca-Blinder decomposition of gender pay gap with and without Heckman sample corrected method. Oaxaca-Blinder decomposition allows us to clarify how much of the variation in mean results between two groups is attributable to group variations in the values of explanatory variables and how much is attributable to variations in the magnitude of regression coefficients (Oaxaca 1973²⁸⁰; Blinder

²⁸⁰ Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International economic review*, 693-709.

1973²⁸¹). It separates the wage gap between two groups into a portion that can be "explained" by group variations in productivity traits, such as education or job experience, and a remainder that cannot be explained by differences in wage determinants. Although it also includes the effects of group differences in unobserved predictors, this "unexplained" portion is frequently employed as a measure of discrimination (Jann, 2008)²⁸².

Table 4.23 shows the results of Oaxaca-Blinder decomposition for both datasets – SES and EU-SILC. The results show that mean of log wages for men is 2.549 and 2.424 for women, yielding a wage gap of 12,6 % for SES sample. Similar results are calculated for EU-SILC dataset, yielding a wage gap of 9 %. Important but unpleasant finding is that explained part of the gender pay gap is significantly lower than unexplained part meaning that observable characteristics explain a very little proportion of gender pay gap. Furthermore, in SES sample the explained part has positive value meaning that if men and women had the same characteristics gender pay gap would be lower by about 1,3 %. The rest remains unexplained (11,2 %). We can attribute this partly to the discrimination and other unobserved characteristics but part of the magnitude of unexplained part could be explained by the imperfection of measured personal and labor market characteristics since they might not catch all the variability of the real values (for example age is measured as age groups instead of exact age of a respondent). In the EU-SILC sample the unexplained part turned negative indicating that women have on average better characteristics and if the employed women were hired with the same observed characteristics as men the gender pay gap would be higher by about 4,8 %, result that confirms our previous results. The unexplained part is similar to SES sample one but is actually higher than overall wage difference. This means that there are other important factors besides controlled observable characteristics that we do not control for.

Table 4.23: Oaxaca-Blinder decomposition, cross-country, 2018-2020

Hourly Wage (ln)	SES				EU-SILC			
	Coef.	Std.Err.	[95%Conf.	Interval]	Coef.	Std.Err.	[95%Conf.	Interval]
Men	2.549***	0.001	2.548	2.551	2.435***	0.006	2.422	2.447
Women	2.424***	0.001	2.422	2.425	2.345***	0.006	2.332	2.357
Difference	0.126***	0.001	0.124	0.128	0.090***	0.009	0.072	0.108
Explained Part	0.013***	0.001	0.012	0.015	-0.048***	0.008	-0.064	-0.032
Unexplained Part	0.112***	0.001	0.111	0.114	0.138***	0.005	0.128	0.149

Source: SES 2018, EU-SILC 2020, own calculations. *** p<0.01, ** p<0.05, * p<0.1

²⁸¹ Blinder, A. S. (1973). Wage discrimination: reduced form and structural estimates. *Journal of Human resources*, 436-455.

²⁸² Jann, B. (2008). The Blinder–Oaxaca decomposition for linear regression models. *The Stata Journal*, 8(4), 453-479.

As in previous part of the analysis, we use selection corrected sample that includes unemployed people in the labor market. Table 4.24 shows that wage difference increased to 14,1 %. The magnitude of explained part (Endowments) also rose but only slightly to -0,051 meaning that if men and women had the same characteristics and unemployed people found a job the gender pay gap would increase by about 5,1 %. Unemployed people, therefore, might have very similar or better observable characteristics than people in the labor market but sectoral and occupational segregation occurs. Unexplained part (Coefficients) also rose to 0,158 suggesting that labor market discrimination is to a great extent present. Interaction term take into account the possibility that explained and unexplained part occur simultaneously.

Table 4.24: Oaxaca-Blinder decomposition (Heckman-corrected), cross-country, 2020

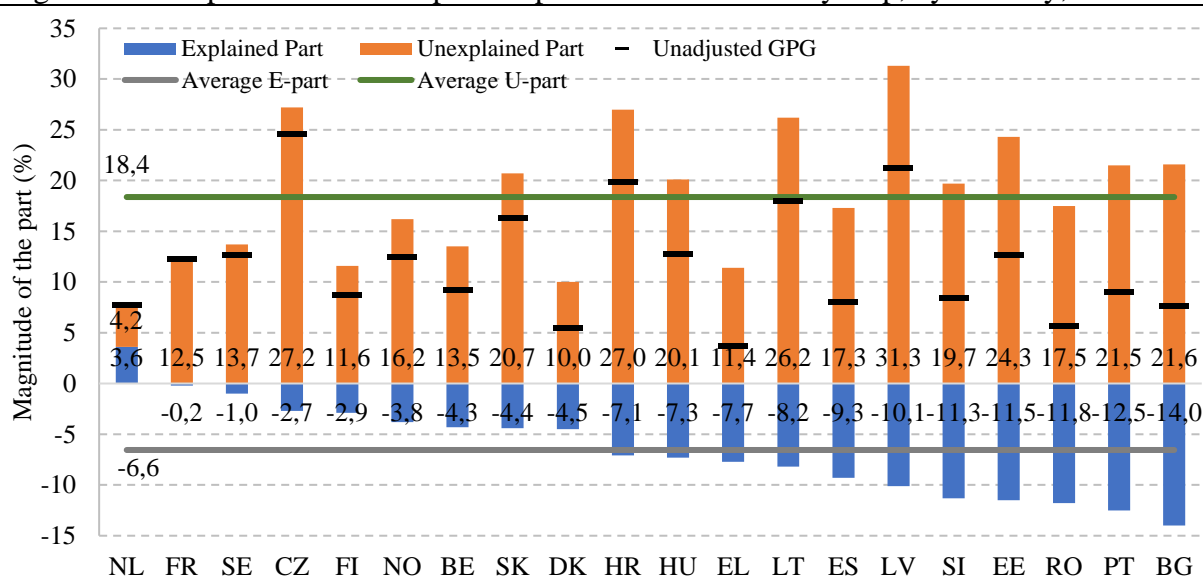
Hourly Wage (ln)	Coeff.	Std.Err.	z	P-value	[95%Conf.	Interval]
Men	2.387***	0.006	424.740	0.000	2.376	2.398
Women	2.245***	0.006	408.150	0.000	2.235	2.256
Difference	0.141***	0.008	17.980	0.000	0.126	0.157
Endowments	-0.051***	0.006	-8.640	0.000	-0.062	-0.039
Coefficients	0.158***	0.007	21.810	0.000	0.144	0.172
Interaction	0.034***	0.005	6.680	0.000	0.024	0.044

Source: EU-SILC 2020, own calculations. *** p<0.01, ** p<0.05, * p<0.1

Since the Heckman-corrected method is possible only with EU-SILC dataset, from now on we continue with using only that one and we compare the results for selection corrected and not corrected samples, therefore the number of countries is decreased to 20. First, we look at explained and unexplained part by each country and their decomposition. Figure 4.12 shows the explained and unexplained parts of the gender pay gap by each country. The findings of the breakdown vary significantly between countries. Very interestingly, in every country the explained part is negative, except Netherlands, and in every country the unexplained part is positive. This means that average women in these countries have better observable characteristics (endowments) than men, particularly are better educated, but there exist other important factors influencing the wage differential. Therefore, only the unexplained (residual) part can explain why female workers earn less on average than male workers. We also observe that countries with rather low unadjusted gender pay gap have also high negative values of explained part of the gender pay gap (Bulgaria, Portugal, Romania or Slovenia). This also supports the finding that average women have much more suitable characteristics for the labor market than men but there might be significant discrimination or other unobservable factors that prevents women's wages from catching up with men. The positive values of unexplained part support this finding since they in all countries favour men. There are two distinct types of

effects in it. First, it recognises that a person's gender may have an impact on how the market values a given endowment meaning that market returns on the same endowment are different for men and women. Second, it takes into account the effect of gender differences in those market-relevant attributes that our model could not account for. For example, union density where men tend to be more likely a union member than women (Haile, 2021)²⁸³, wage bargaining where women are less likely than men to have negotiated their pay at various points in their careers (Biasi and Sarsons, 2022)²⁸⁴ or religion as a proxy indicator for more restrictive gender role conformity (ILO, 2017)²⁸⁵.

Figure 4.12: Explained and Unexplained parts of the Gender Pay Gap, by Country, 2020



Source: EU-SILC 2020, own calculations.

Even more interesting insight into the decomposition of gender pay gap provide Figures 4.13 and 4.14 which show the decomposition of explained and unexplained part of the gender pay gap. First, we take a look at explained part and factors contributing to the gender pay gap. With the exception of Bulgaria, Netherlands and Romania, it is clear that choosing male and female employees for various industries plays a role in contributing to the pay gap. As a result, the gender pay gap is largely caused by the overrepresentation of women in low-paying sectors and consequently underrepresented in sectors with high pay levels. In the earlier parts of the analysis, we found that women are highly overrepresented in sectors like Education, Human health services or Activities of households as employers and are particularly underrepresented

²⁸³ Haile, G. A. (2021). Men, women and unions. *Industrial Relations Journal*, 52(3), 201-217.

²⁸⁴ Biasi, B., & Sarsons, H. (2022). Flexible wages, bargaining, and the gender gap. *The Quarterly Journal of Economics*, 137(1), 215-266.

²⁸⁵ International Labor Office. (2017). *World employment and Social Outlook: Trends for women 2017*. Geneva: International Labor Organization. ISBN 978-92-2-130834-8

in sectors like Construction, Mining and quarrying or Water supply. Regarding the magnitude of the effect the largest is measured in Norway and France where its contribution amounts to 5,4 % or 5,1 %, respectively. Sectors Construction and Manufacturing are mostly responsible for this effect. On the other hand, there is Romania where the magnitude of effect is negative meaning that sectoral segregation is on a decline and is rather lowering the pay gap. This effect can be attributed to the sectors like Agriculture and Wholesale and retail trade where women participation is very high. However, these effects need to be interpreted with caution because there is possibly a strong correlation between sectors and occupational choice.

Another effect that is quite homogenous across all examined countries is the type of contract. The projected wages are lower when working in a temporary position in almost all countries. Due to the possibility of contract termination after the contract validity period, temporary employees have less interest in building up their human capital, which expose them to lower possibility of attending an internal company training which is accompanied by lower number of options to increase their human capital. The fact that temporary employees frequently lack certainty about their future careers and are thus generally less inclined to make specific human capital expenditures makes them likely to symbolize a selection (Boll and Lagemann, 2018)²⁸⁶. The consequence is a decreased wage as a result of a lack of specialized knowledge. Because temporary roles are more common among female employees in the majority of countries, this in turn contributes to the gender pay gap. When self-selection is present, women are less likely to commit to a particular career route since they face a larger risk of work interruptions due to motherhood. In our sample, temporary contracts are widening the gender pay gap mostly in France (0,8 %), Belgium (0,7 %) or Norway (0,6 %). Conversely, for Lithuania (-0,2 %), Portugal (-0,1 %) or Latvia (-0,1 %) we observed a negative effect meaning that temporary contracts lower the gender pay gap. Average effect (cross-country) is at about 0,22 % so the overall effect of temporary contracts is rather low.

Rather homogenous effect has also age distribution. Very interesting results are shown for Baltic countries, where the contribution to the gender pay gap of age variable is the strongest – Latvia with 5,5 %, Estonia 3,9 % and Lithuania 1,5 %. Possible explanation is that women in these countries are on average younger than men providing an advantage for men in the labor market. The magnitude of these estimates is highly above average effect (0,62 %) suggesting

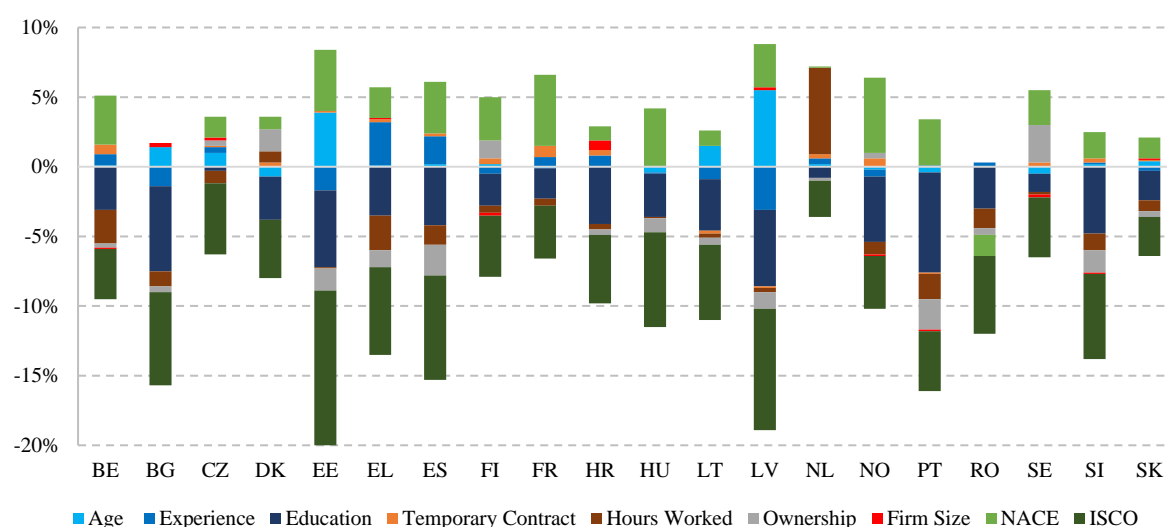
²⁸⁶ Boll, C., & Lagemann, A. (2018). Gender pay gap in EU countries based on SES (2014). Luxembourg, Publication Office of the European Union, 10.

that sample selection bias might be present (dealt with in further pages). On the other side of the scale are two Scandinavian countries – Denmark and Sweden, where the effect shows negative values and therefore lowering the gender pay gap meaning that women with the same average endowments as men have higher returns if became a year older. But the magnitude of the effects is rather low with -0,7 % for Denmark and -0,5 % for Sweden. There are some other countries where the negative effect prevails – Portugal and Hungary with -0,4 %, Norway (-0,2 %) and France (-0,1 %).

Experience, contrary to age, shows heterogeneous effect although their magnitude is much lower. Common sense would suggest that better experience is associated with higher wages. Furthermore, this can be explained by a self-selection meaning that higher wage is associated with higher satisfaction in job and that is associated with workers staying longer in the company, therefore better experience, and the long-term productivity-boosting accumulation of human capital specific to particular jobs (Topel, 1991)²⁸⁷. Our results show that in Greece the experience widens the gender pay gap by about 3,1 % meaning that women tend to change their jobs more often than men and tend to suffer more interruptions from the labor market. Effect is also high and widening in Spain (2,0 %) or Croatia (0,8 %) suggesting that this trend is characteristic for southern Mediterranean countries. On the other hand, Baltic and Nordic countries show negative effect of experience on the gender pay gap meaning that returns on experience are higher for women than men. The effect is the strongest in Latvia (-3,1 %) and Estonia (-1,7 %) but also Bulgaria (-1,4 %), Lithuania (-0,9 %) or Norway (-0,5 %). In these countries we also observe higher female participation rate than in southern countries, which provides an explanation for occurring the above-mentioned situation.

²⁸⁷ Topel, R. (1991). Specific capital, mobility, and wages: Wages rise with job seniority. *Journal of political Economy*, 99(1), 145-176.

Figure 4.13: Decomposition of the explained part of the GPG, by country, 2020



Source: EU-SILC 2020, own calculations.

Firm size is also one of the contributors to the gender pay gap. The magnitude of the effect is, however, very low in comparison with other determinants. In the cross-country sample, women are more likely to work in large firms than in small. Additionally, large organizations generally offer greater compensation levels. Masters (1969)²⁸⁸ argues that there is the need to pay compensatory differentials because working in an impersonal environment is unpleasant or the occurrence of productivity increases due to a larger division of labor. Consequence of this is, that gender pay gap is being reduced by the effect of firm size. The theory is confirmed in Scandinavian countries. Negative effect of the firm size is seen in Sweden (-0,2 %) and Finland (-0,2 %) but also in Norway (-0,1 %) or Portugal (-0,1 %). Conversely, the exact opposite of above-mentioned could be seen in countries like Croatia (0,7 %), Bulgaria (0,3 %), Czech Republic (0,2 %) or Latvia (0,2 %). As we see, the magnitude of the average effect of firm size is rather low.

One of the factors mostly contributing to lowering the gender pay gap is the ownership or economic control of the enterprise. We distinguish between three types of enterprise: public, private and mixed. Inequality in the distribution of male and female employees between private and public firms contributes to the closing of the gap, since women tend to work in public firms and men in private. The distribution for mixed enterprises is almost even. On average, public control of the firm reduces the gender pay gap by about 0,4 % but there is also a heterogeneity in the country effects. The reduction effect is the strongest in Portugal where it reduces the

²⁸⁸ Masters, S. H. (1969). An interindustry analysis of wages and plant size. *The Review of Economics and Statistics*, 341-345.

gender pay gap by about 2,2 %, similar to Spain. Slovenia and Estonia also show strong reduction effect of about 1,6 %. On the other hand, Scandinavian countries show that public control of the company is widening the gender pay gap meaning that there is a wage penalty increasing the gender pay gap by about 1,3 % for Finland to 2,7 % for Sweden. In the Slovak Republic the effect is slightly negative (-0,4 %) reducing the gender pay gap.

Very important factor in lowering the gender pay gap are working hours. In every examined country in our sample, women have been hired on a part-time basis more frequently than men. In majority of them is part-time employment linked to lower hourly wages. However, results show that if women worked full-time working hours the gender pay gap would decline in most countries. The only exceptions are Denmark (0,8 %) and noticeably Netherlands (6,2%) where part-time contracts are very often form of employment, especially for women. In cross-country sample, the average effect is -0,5 % meaning that, holding everything else equal, if women worked more hours, the gender pay gap would reduce. In other 18 countries, the more equal working hours tend to reduce gender pay gap with the effect most prominent in Greece (-2,5 %), Belgium (-2,4 %) or Portugal (-1,8 %). In the Slovak Republic the effect is favouring women with lowering the gender pay gap by about 0,8 %.

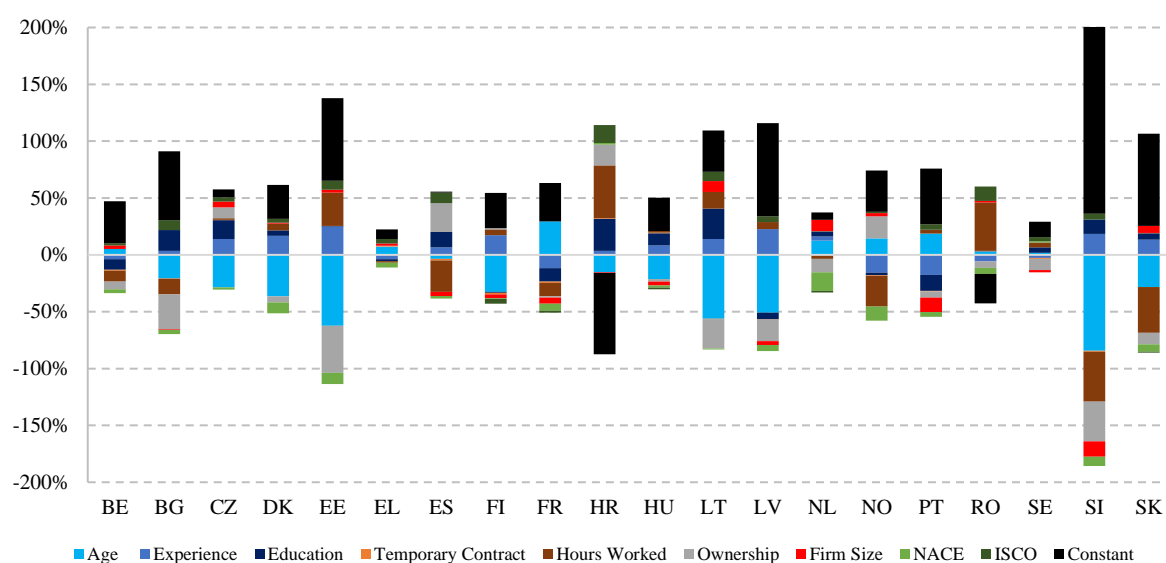
Homogenous effect could be observed in case of effect of education on gender pay gap. As expected, tertiary education graduates earn on average more money than those with lower than tertiary education. Moreover, we found earlier that women tend to have higher education enrolment than men (Figure 4.8) leading to an assumption that, on average, women are better educated than men, therefore education provides a wage premium for women. In every examined country the effect has negative sign meaning that education is strongly lowering wage differences, favouring women. In cross-country sample, the average effect is about -3,5 % but there are some countries exceeding this average by more than double (Portugal with -7,2 %). The effect is also very strong in Bulgaria (-6,1 %) or in Baltic countries (Latvia and Estonia both have values of -5,5 %). On the other side of the scale stands the Czech Republic with marginal impact of -0,3 % meaning that education brings only a little wage premium for Czech women. In the Slovak Republic the wage premium is about 2,1 % in favour of women.

The last characteristic we analyse is the occupation (ISCO). Very interestingly the effect is homogenous and negative across the whole examined group of countries. This implies that women tended to gather in the occupational categories with higher wages than men. First glance might imply that arguments previously presented linking occupational segregation to gender

wage inequalities are false. Due to some data restrictions, we must, however, use caution when interpreting the results. First off, we don't fully account for the level of variability in occupations because we just distinguish between 8 occupational groupings (ISCO 1-digit level). Secondly, as stated when analysing the effects of sector, we need to account for possibility of high correlation between occupational and sectoral choice of a worker even to the point where particular occupations are only seen in specific sectors. In terms of the sectoral effect, we had observed that employing men and women in various sectors had nearly equal increasing effect on the gender pay gap. Therefore, some of the effects of occupational segregation may have been partially explained by differences in the sectors. Thirdly, employment selection is very important too, as occupations associated with a feminine image are still frequently carried out outside of the formal labor market in several nations. Considering these limitations, the occupational effect is on average about -5,4 % but showing high heterogeneity. The highest effect is in Estonia (-11,1 %) and Latvia (-8,7 %) in favour of women, countries with above average female employment rate meaning that employment selection is possibly not the problem here but rather aggregation to ISCO 1-digit level is causing problems with losing of the variability of the occupation categories. On the other hand, Greece is an exemplary case of a country where employment selection might be causing problems. This country belongs to the group of countries with lower female employment rate and lower gender pay gap (Figure 4.5). This appears to be a consequence of the fact that some normally low-paid service jobs, like childcare, which have historically been considered to be women's jobs, are still mostly not recorded through official labor contracts but are instead carried out within households in these countries (Boll and Lagemann, 2018)²⁸⁹. Therefore, this phenomenon is not measured and cannot be observed in the data. Due to the occupation effect, the observed gender wage difference statistically shrinks as a result (-6,3 %). Similar effect can be observed in Spain (-7,5 %) or Croatia (-4,9 %). In the Slovak Republic the effect of occupation is below average with value of -2,8 % implying that women have small wage premium in comparison with men.

²⁸⁹ Boll, C., & Lagemann, A. (2018). Gender pay gap in EU countries based on SES (2014). Luxembourg, Publication Office of the European Union, 10.

Figure 4.14: Decomposition of the unexplained part of the GPG, by country, 2020



Source: EU-SILC 2020, own calculations.

Results from the Figure 4.12 showed that unexplained part of the gender pay gap is positive and a bigger part of the gender pay gap than explained part. This applies for every examined country. We can attribute the magnitude of the unexplained part mostly to data imperfection and limitations. Since most of the observable characteristics are of a categorical character, the variability of the data is limited. Also, labor market interruptions of each worker like childbirth or childcare, might be imperfectly observed in the data as only experience is variable capturing the involvement in the labor market. Therefore, the residual gap implicitly accounts for the endowment effects brought on by these differences. Additionally, it is very likely that unexplained part also consists of occupational and sectoral sorting, that our aggregated data does not capture. Similarly, unique personal abilities and traits or wage bargaining skills are not observed. This means that observable characteristics used in our dataset are possibly missing some other characteristics which are important in determining wages of workers. Effects of all those characteristics are included in the unexplained part of the gender pay gap. Therefore, the unexplained part of the gender pay gap cannot be interpreted as solely effect of gender discrimination in the labor market.

Fortunately, we still can decompose the unexplained part according to variables that are observed. Our decomposition method yields an unexplained part that consists of the constant term, which accounts for the effect of all unobserved wage determinants, and the coefficient effects, which measure the effects of various observable characteristics. Figure 4.14 shows the results of the unexplained part of the gender pay gap by country. Positive values of the

coefficient mean that male employees are paid more than female for having the same wage-relevant attribute, increasing the gender pay gap. Conversely, negative values mean that women are paid more than men for a certain characteristic, reducing the gender pay gap.

At the first glance we can see that Constant term is showing to be the highest contributor to the unexplained part of the gender pay gap. Constant term includes statistically unobserved characteristics that do contribute to the gender pay gap. It also accounts for imperfection of measured observable characteristics mentioned above. The values of the constant term are very heterogeneous ranging from -71,3 % in Croatia to 169,6 % in Slovenia. Average value of the constant term is 34,4 %. Only two countries show negative values of the constant, mentioned Croatia and Romania (-25,8 %), meaning that in these two countries there are unobserved characteristics that work in favour of women. One of the explanations are unions working in favour of gender equality or feminist movements demanding equal wages. In all other countries the constant term rises the gender pay gap. This means that there are unobservable factors that bring wage premium for men. The constant term also absorbs the effect of gender discrimination, but it is not possible to measure its exact extent.

One of the main contributors to the unexplained part is the sectoral distribution of workers. The coefficients are negative meaning that there is within-sector wage premium for women in the male-dominated sectors. The only exception is Croatia and Sweden, where coefficients are positive (1,2 and 1,3 %, respectively) suggesting that there is male wage within-sector premium in feminine sectors. Negative signs also show that some unobservable characteristics regarding inter or intra-sector segregation that lower the gender pay gap are omitted for example, working climate or ethical motives in the choice of workplace. However, the magnitude of coefficients is very small in comparison with the coefficients in case of explained part.

A significant part of the unexplained part of the gender pay gap consists of coefficients effects of age distribution. In cross-country sample it reduces the gender pay gap by about 17,4 %. However, the variability is rather high ranging from -84,4 % in Slovenia to 29,5 % in France. The predicted distribution of wages over the lifecycle has a significant bearing on how these results should be interpreted. Cross-country wage regressions are showing a reversed U-shape relationship between wages and age for both men and women with highest wage levels at the age group 50-59, however, for men the decrease in the oldest category is more pronounced than for women. Negative coefficients of this predictor mean that if women had characteristics like

men, they would suffer an average loss of wages. Boll and Lagemann (2018)²⁹⁰ provide two possible reasons for this situation. Firstly, the underrepresentation of women in several physically demanding jobs in manufacturing and crafts may cause statistically unobserved occupational sorting to affect estimates. Physical deterioration brought on by aging and a significant loss in productivity are both present when performing these occupations. If older male workers' earnings expectations are primarily harmed, then this is another channel of occupational segregation contributing to the wage differences. Secondly, selection effects linked to the choice of employment appear if the number of working women declines as they get older and the remaining women represent, on average, positive selection in terms of traits related to productivity - beneficial age effect. Unfortunately, selection effects are very hard to identify and quantify. Regarding our results, in the Slovak Republic women have high wage premium coming with age (coefficient -28,3 %), similar to women in the Czech Republic (-28,5 %). On the contrary, in Portugal or Norway the wage premium is favouring men (18,7 % or 14,5 %, respectively).

Quite opposite effect is being shown for experience. In cross-country sample, experience shows on average positive effect of 5,3 % meaning that men have higher returns on years of being in the labor market. A phenomenon very common in the labor markets since men less frequently suffer job interruptions, for example due to paternity leave. This theory is confirmed by estimated coefficients in most of the examined countries. The highest effect of experience is observed in Baltic countries of Estonia (25 %) and Latvia (22,6 %) even though the mean experience is, in our sample, a little bit higher for women (0,3 and 0,7 year, respectively). This means that returns on experience are much higher for men, probably because of the vertical segregation in the labor market suggesting a presence of strong glass ceiling effect preventing women from entering higher hierarchical positions. Therefore, situations like this might happen, that women have on average higher experience, but this experience comes from lower paying jobs, therefore experience relevancy might be limited in explaining the gender pay gap. There are also countries where effect is on the other side of the scale. In Portugal or Norway, the effect of experience has negative values (-17,6 % or 15,7 %, respectively) meaning that experience present a wage premium for women.

²⁹⁰ Boll, C., & Lagemann, A. (2018). Gender pay gap in EU countries based on SES (2014). Luxembourg, Publication Office of the European Union, 10.

Heterogeneous effect is also shown for working hours. In 11 examined countries the effect is positive meaning that men have advantage against women in hours worked. Conversely, in 9 countries the results show advantage for women ranging from -1,5 % in Greece to -43,9 % in Slovenia. Women are very likely to work part-time jobs to preserve a certain work-life balance. In most countries this is a main reason for women to work less hours than men, resulting in widening the gender pay gap. However, according to Petrongolo (2004)²⁹¹ women are indeed over-represented in part-time jobs but the situation across Europe is regionally different. While in southern Europe, part-time positions are for women frequently unavoidable and offer much poorer job satisfaction than full-time ones, in northern Europe this distribution largely corresponds to women's preferences and the need to balance work and childcare. This assumption largely stands in our results since in northern and Baltic countries the situation is more plausible for women (positive coefficients mean that if men and women worked the same amount of hours the gender pay gap would rise, therefore current situation is more in favour of women) – Estonia (29,2 %), Lithuania (14,5 %) or Finland (5 %) and in southern countries it is the exact opposite meaning that if women worked the same hours as men the gender pay gap would be lower – Slovakia (-40,3 %), Spain (27,5 %) or Bulgaria (-13,8 %).

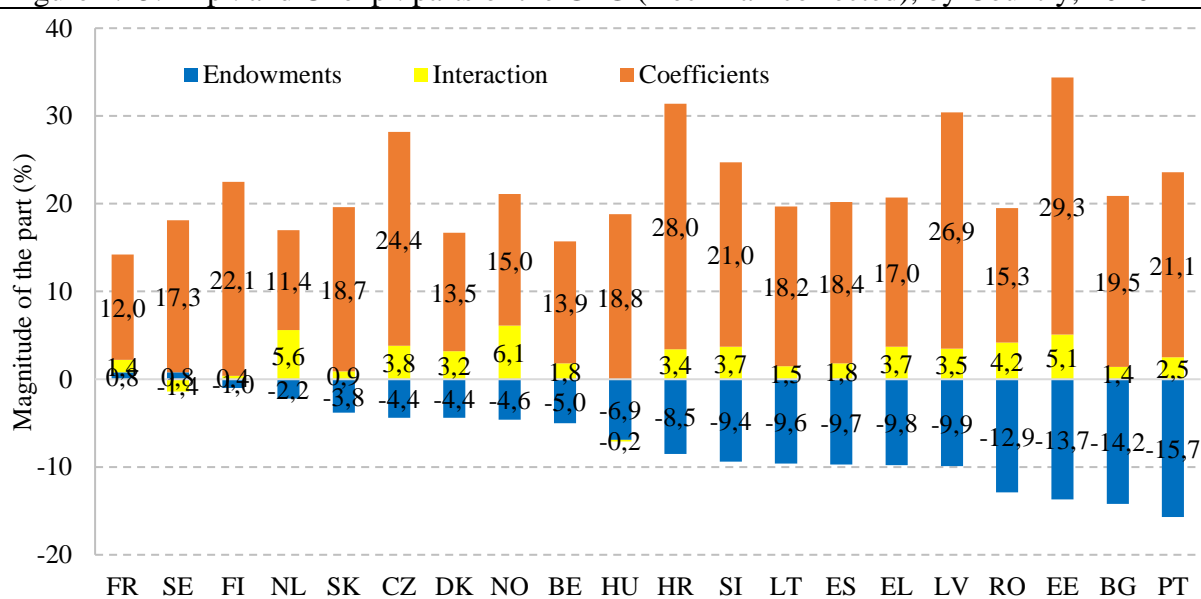
In this subchapter, we have so far found that unexplained part of the gender pay gap is much higher than explained part meaning that observable characteristics have lower relevancy in explaining the gender pay gap than other characteristics like discrimination or union density. One important limitation of the analysis is that it accounted only for employed people. In the next part we re-run the same regression, but we include a sample selection variable. In this way, we can account for people who are unemployed and compute the gender pay gap in the situation if these people change their employment status.

Figure 4.15 shows the results of explained and unexplained parts of the gender pay gap. Endowments part accounts for the explained part of the gender pay gap and measures how the mean result for women would change if women had predictor values (characteristics) like men. Similarly, Coefficients component accounts for the unexplained part and measures the differences in coefficients weighted by men's characteristics levels meaning that Coefficients measure how the mean output for women would change if women had men's coefficients. In

²⁹¹ Petrongolo, B. (2004). Gender segregation in employment contracts. *Journal of the European Economic Association*, 2(2-3), 331-345.

simpler terms, the difference in explanatory variables between groups is shown in the endowments and Coefficients is the part that attributed to the group differences in the coefficients. Finally, the interaction term considers the possibility of concurrent effect of Endowments and Coefficients terms. If we compare the results from Figure 4.12 and 4.15, we can see that the magnitude of the explained parts rose in almost every examined country. Particularly in Portugal the endowments term rose by more than 3 percentage points or in Estonia by more than 2. On the other hand, in Finland it decreased by about 2 percentage points. There are three outliers where the turned from negative to positive and vice versa. In France and Sweden, after including unemployed people in our sample, the explained part turned positive meaning that if unemployed people changed their employment status to employed the gender pay gap would rise. This implies that employed and unemployed men, if accounted for together, have on average better characteristics than women. Exactly opposite scenario is observed in Netherlands (explained part turning from 3,6 to -2,2 %) where including unemployed people would lead to narrowing the gender pay gap. Situation in the Slovak Republic has not changed substantially as it decreased by 0,6 percentage points to -3,8 %.

Figure 4.15: Expl. and Unexpl. parts of the GPG (Heckman-corrected), by Country, 2020



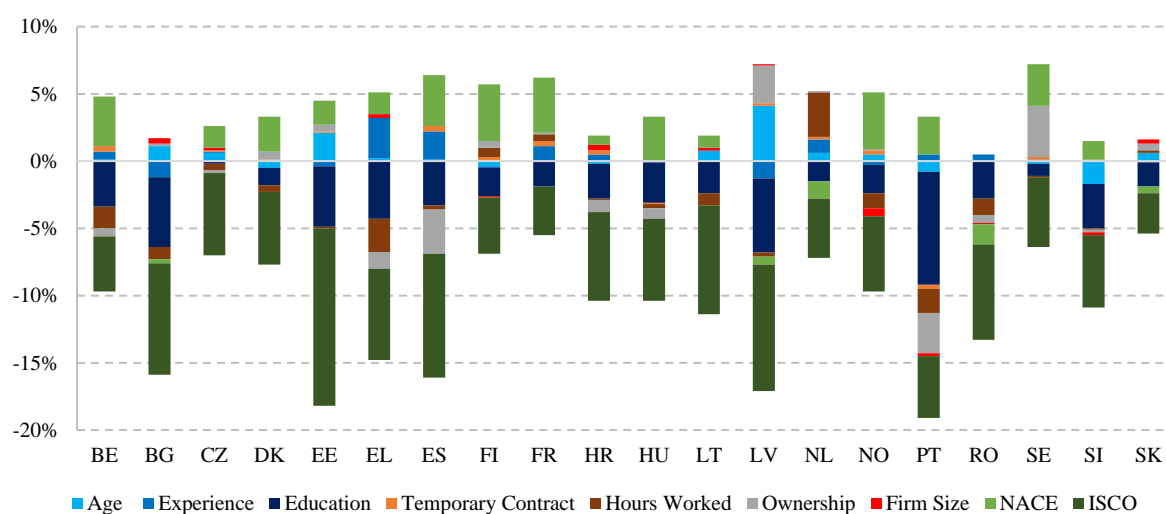
Source: EU-SILC 2020, own calculations.

The decomposition of explained part with sample correction is shown in Figure 4.16. The results show that there are no significant changes in the direction of coefficients. However, the magnitude has changed in some cases significantly. Regarding age, the most significant changed occurred in Estonia with coefficient decreasing from 3,9 % to 2,1 % or Latvia from 5,5 % to 4,1 %. In Slovenia, the effect turned negative (from 0,2 % to -1,7 %) meaning that

after controlling the unemployed, age provides a wage premium for women suggesting that most unemployed people are young women. The average effect of age decreased by 0,3 percentage point to 0,3 % suggesting that average effect of age is rather low. The same applies for experience with the same average effect, although this effect rose from none to 0,3 %. The magnitude of coefficient changed very little. Worth mentioning is Latvia where the effect narrowed by almost two percentage points to -1,3 % but still meaning that experience still gives women a wage premium. Similar situation could be observed in Estonia but with lower decrease from -1,7 % to -0,4 %. The opposite situation is shown for Netherlands where the wage premium is in favour of men with increase from 0,4 % to 1 %. In the Slovak Republic the situation remains pretty much the same with experience contributing only very little to narrowing the gender pay gap (-0,1 %). Education, on the other hand, remains significant predictor in lowering the gender pay gap with average effect of -3%. Decomposition of education effects by country shows higher heterogeneity than previous discussed effects. The change seems to be most significant in Norway where effect of education decreased from -4,7 % to -2,1 %, similarly in Denmark (-3,1 % to -1,3 %) or Croatia (-4,1 % to 2,6 %). Results in these countries show that unemployed women have on average worse education than men, therefore the effect is closer to zero or positive values. Conversely, in Portugal education favours women with increased effect from -7,2 % to -8,4 % suggesting that unemployed women have on average better education than men and their inclusion in the labor market would lower the gender pay gap. In the Slovak Republic, the situation remains almost the same (-2,1 % to -1,8 %). Effect of temporary contracts remain very low with no significant changes. Average effect changed from 0,2 % to 0,1 % still widening the gender pay gap, as expected. Regarding working hours, average effect decreased from -0,5 % to -0,4 % still favouring women. However, high heterogeneity is present. For example, in Denmark the effect turned negative (-0,5%) but in Finland (0,7 %), France (0,5 %) or the Slovak Republic (0,2 %) turned positive. The most prominent change occurred in Netherlands where the effect decreased by almost 3 percentage points to 3,3 % still favouring men but suggesting that women have a tendency to catch up with men in hours worked. Average effect of company ownership almost diminished (from -0,4 % to -0,1 %), although in some countries it shows interesting changes. In Latvia, the magnitude more than doubled and changed direction from negative to positive (-1,2 % to 2,8 %) suggesting that if unemployed women found job, it is very likely to be a lower paying position in private sector providing a wage premium for men. The same applies to the Slovak Republic or Belgium. Firm size proved to be again a weak contributor to the explained part of the gender pay gap with zero effect in most of the examined countries. On the contrary, that is

definitely not the case of effect of sectors (NACE) even though average effect fell by about 0,6 percentage point to 1,8 %. In most countries the magnitude of effect remained quite stable, however, there are some exceptions where the exact opposite occurred. For example, in the Slovak Republic the effect changed from 1,5 % to -0,5 % suggesting a decrease by 2 percentage points and turning the sign. This implies that if unemployed people got employed, they would very likely be employed in male-dominated sectors leading to a decrease in the gender pay gap. The same phenomenon is observed in Latvia but with even greater magnitude (3,1 % to -0,6 %). There are also some countries where the magnitude of effect rose and remained positive. One of the examples is Finland where the effect rose by 1,1 percentage points to 4,2 % suggesting that unemployed women have tendency to find a job in feminine sectors, therefore widening the gender pay gap. Situation is very similar in Sweden (2,5 % to 3,1 %) or Denmark (0,9 % to 2,6 %). The highest contribution to the explained part is again by the occupation (ISCO). Average effect has even increased from -5,4 % to -6,3 % meaning that if unemployed women found a job, they are very likely be employed in higher paid positions and also in male-dominated sectors, further narrowing the gender pay gap. In every examined country the sign remained negative and rose, except Hungary, Slovenia, Finland and France where the effect slightly decreased. The highest change is observed in Lithuania where the magnitude of effect increased by 2,7 percentage points to -8,1 % suggesting a strong equality effect by employing women in higher hierarchical positions even in masculine sectors. Generally, the highest effect of occupation distribution could be seen in Baltic countries with Estonia being an equality winner here with very high magnitude of the effect (-13,2 %) suggesting high wage premium for women employed in high paying positions.

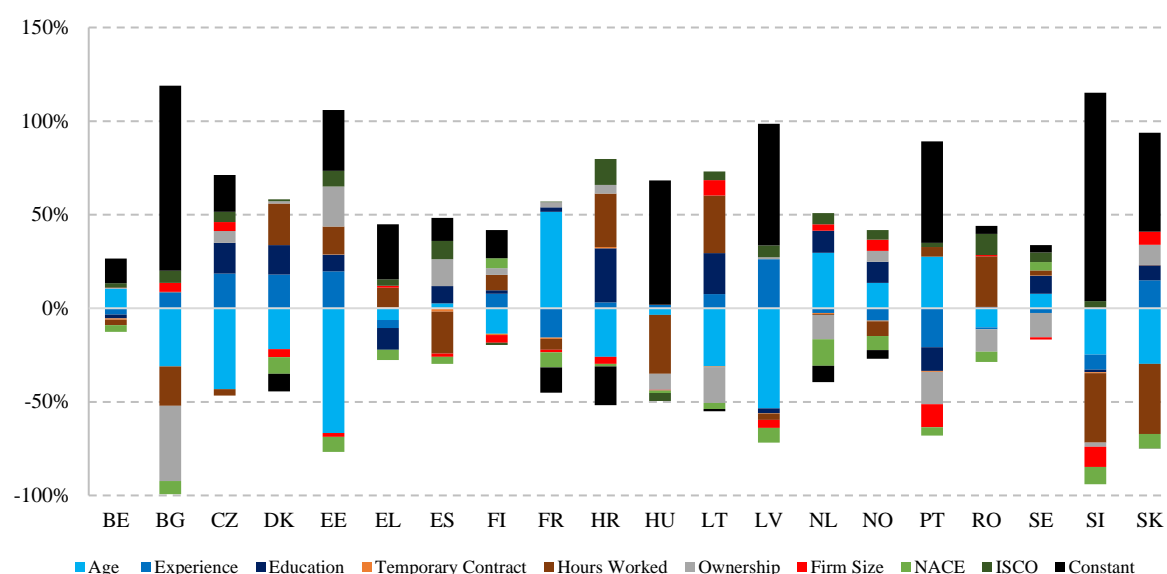
Figure 4.16: Decomposition of the Expl. part (Endowm.) of the GPG, by country, 2020



Source: EU-SILC 2020, own calculations.

Figure 4.17 shows the decomposition of the coefficients term (unexplained part) measuring the change of output if women had men's coefficients. The results show that the magnitude of effects fell considerably in most countries suggesting that sample selection bias has been present. Therefore, Heckman-corrected estimates are more accurate. Regarding age, the average effect fell from -17,4 % to -10,9 % suggesting that unemployed women have lower wage premium from age because they are on average younger than employed people. The effect has changed the most in Slovenia (from -84,4 % to -24,8 %) but remained negative and above average. Opposite effect could be observed in France where the sample correction favours men even more with change of already positive coefficient (29,5 %) by almost double (51,6 %) suggesting that young unemployed women are likely to be employed in the low paying positions. In the Slovak Republic the effect changed only very little from -28,3 % to -29,7 %. Similar pattern could be observed in case of experience coefficients. Average effect fell from 5,3 % to 3,1 % but remained positive and favouring men. There are few countries where trend changed. For example, in Spain the coefficient fell from 6,7 % to -0,2 % indicating that unemployed women would have on average higher wages than men if they found a job based on their experience and had the same returns on experience like men. This pattern is similar in Slovenia but of much higher magnitude (change from 18,4 % to -8 %). Opposite situation has not been found but rather rise in magnitude of the already positive coefficients occurred in many countries – Czech Republic, Denmark, Latvia or Slovakia. Regarding education, average effect changed only to a little extent (increase by 0,7 percentage point to 5,8 %) and is still favouring men. However, some interesting changes happened across the examined countries after sample selection. In Bulgaria and Hungary, the effect of education completely diminished (change from 18,5 % or 10,7 % respectively to 0,1 %) meaning that unemployed women have on average higher education attained than employed people providing them a wage premium if they became employed and had the same returns on education like men. Unfortunately, in most countries the sample correction showed an increase in coefficients in favour of men. In the Slovak Republic the situation changed also in advantage for men (change from 5,5 % to 8,1 %).

Figure 4.17: Decomposition of the Unexpl. part (Coeff.) of the GPG, by country, 2020



Source: EU-SILC 2020, own calculations.

The effect of temporary contracts has not changed substantially, and its average effect remained low and negative at value of -0,2 %. Only change worth mentioning is the one in Sweden where the coefficient changed its direction from negative to positive although remained very close to zero (0,1 %). Different stories tell the coefficients for hours worked. Even though average effect remained almost unchanged, the heterogeneity across the sample shows that relatively big changes occurred within countries. One of the outstanding countries is Hungary where the estimated effect fell from 1,4 % to -31,5 % suggesting that unemployed women would work much more hours than currently employed leading to narrowing the gender pay gap because of higher returns than men, similar to women in Slovenia and Slovak or Czech Republics. There are also countries where exact opposite situation occurred, like Denmark (from 5,9 % to 22,2 %) or Lithuania (from 14,5 % to 30,9 %) meaning that the gender pay gap would rise. Generally, these changes showed that sample correction is very important in our sample. The same goes for changes in coefficients of firm ownership where average effect fell from -6,8 % to -2,7 % showing strong heterogeneity across countries again. Very high change occurred in Estonia where previous estimate of -41,4 % changed to 21,3 % suggesting that unemployed women tend to be employed in public sector or lower paid positions in private sector, therefore positive sign of the coefficient suggesting widening of the gender pay gap meaning that if women had men's coefficients (returns) the gender pay gap would rise, situation similar in the Slovak Republic or Belgium. There are also some countries where sample correction showed higher advantage for women – Bulgaria (-40,2 % compared to -30,8 %) or Portugal (-17,3 % compared to -5,2 %). Firm size proved to be on average advantageous for

women (-0,5 %) suggesting that European women tend to be clustered in bigger firms where higher wage equality prevail. However, this does not apply to all examined countries. In Lithuania or Norway, the effect is strongly skewed towards men (8,1 % or 6 %, respectively). The same applies to the Slovak and Czech Republics (7 % or 4,8 %, respectively) or Bulgaria (4,8 %) implying that unemployed women in these countries are very likely to find a job in smaller companies where they would earn less money than men. Regarding sectoral distribution of men and women including unemployed, the situation has not changed significantly on cross-country average (from -5 % to -4,9 %). Some changes, however, occurred on a country level with the most significant change in Finland where the direction of effect changed from negative (-0,6 %) to positive (5,3 %) meaning that if unemployed women became employed and had men's returns on sector the gender pay gap would rise considerably, similarly to Sweden. Conversely, in most countries the sample correction became beneficial for women in increasing of the negative effect – Bulgaria, Greece, Spain, France or the Slovak Republic. Occupation effect has not changed extensively in cross-country average (increase by 0,2 percentage point to 4,5 %). Also, on the country level no substantial changes occurred. Worth mentioning is a change in Netherlands where the effect changed from -1,4 % to 5,9 % suggesting that unemployed women would have on average lower wages than men in the same occupations if they had coefficients like men, therefore the gender pay gap would inflate. The last part of the unexplained part of the gender pay gap is the constant term. This variable absorbs all the unobservable factors determining the gender pay gap. Plausible results is that the cross-country average fell from 34,4 % to 26 % suggesting that sample correction increased a quality of a model specification and a quality of measurement of the observable characteristics. This assumption is confirmed also on country level since for some countries the estimates of constant term fell very close to zero – Lithuania (36,2 % to -1,2 %), Norway (36,3 % to -4,6 %), Romania (-25,8 % to 4,3 %) or Sweden (13,6 % to 4 %). Unfortunately, there are still remaining countries with very high values of constant term. For example, Slovenia shows enormous percentage of unexplained gender pay gap absorbed by constant term (111,3 %) suggesting that there are very strong uncaptured determinants of the gender pay gap providing wage premium for men. The same goes for Bulgaria (98,9 %), Hungary (66,3 %), Portugal (54,3 %) or the Slovak Republic (52,8 %). There are also countries where unobservables favour women, but their magnitude is significantly lower – Croatia (-20,8 %), France (13,5 %), Denmark (-9,5 %), Netherlands (-8,6 %), Norway (-4,6 %) or Lithuania (-1,2 %).

In this subchapter we proved that sample selection is important in determining the extent of the effects of observable individual (age, education, experience, etc.) and labor-market characteristics (Firm size or ownership, sectoral and occupational distribution, etc.). We also proved that explained part of the gender pay gap is of a much lower magnitude than unexplained part meaning that there are important determinants of the gender pay gap omitted in combination with imperfection of a measurement of the observable characteristics. Unfortunately, better data are not available at the moment. We believe that these results help to shed a light on a situation in the labor market in the selected European countries.

5 Discussion

This chapter consists of summary of findings of the dissertation thesis and fulfilment of the set goals of the thesis and confront them with other studies.

Segregation as such is an important topic that must be discussed on a daily basis. Anywhere in the world, any kind of segregation is not permissible from a moral or practical point of view. As for segregation in the labor market, gender segregation represents a significant waste of precious resources, which leads to lower social welfare and thus the whole society suffers from its impact. Up to date research confirm this assumption (Nilsen, 2009²⁹²; Sharma et al., 2019²⁹³). Eliminating gender segregation should be one of the main pillars of modern society.

In our work, we tried to identify the aspects and extent of gender segregation in labor markets in selected European countries. However, in order to be able to identify gender segregation from a quantitative point of view, it was first necessary to define gender segregation from a theoretical point of view. The distinction between the terms sex and gender belongs to basic knowledge in the field of gender segregation in the labor market. Similar to the knowledge of concepts such as gender roles, which represent certain ideas about how society should look from the perspective of gender (Blackstone, 2003)²⁹⁴, which subsequently determines the structure of the labor market. Gender stereotypes, which create images of ideal men and ideal women, have a very similar effect on the labor market, as they influence the choice of profession by segregating people by gender (Jesenková, 2019)²⁹⁵.

We consider it very important to know the concept of gender discrimination, since discrimination is one of the strongest determinants of gender segregation. Men and women have the right not to be discriminated against at work because of their gender. In addition, gender discrimination in the labor market limits the available talent in the economy, which has negative economic consequences. We also consider it necessary to know the concept of gender equality,

²⁹² Nilsen, N. (2009). Occupational gender segregation across functional fields. Research report. University of South Africa

²⁹³ Sharma, J., Yarlagaadda, T., Sharma, S., & Yarlagaadda, P. K. (2019). Vertical segregation: Issues and challenges of women engineers in Australia. *Procedia Manufacturing*, 30, 671-676.

²⁹⁴ Blackstone, Amy. *Gender Roles and Society*.. Human Ecology: An Encyclopedia of Children, Families, Communities, and Environments. 2003. ISBN I-57607-852-3.

²⁹⁵ Jesenková, Adriana. *Rod, rodová rovnosť a rodová spravodlivosť alebo filozoficko-teoretické východiská pre politiku rodovej rovnosti*. 2019. Rodová rovnosť na univerzite: Kontexty a perspektívy. UVPJŠ v Košiciach. Košice. ISBN 978-80-8152-748-7

because it belongs to basic rights and is also a basic value of a democratic society (Sen, 1999)²⁹⁶. The goal of gender equality is to create a respectful space for every woman and every man, so that they can realize themselves in life according to their wishes and abilities and not be limited by gender stereotypes. An important concept that needs to be addressed is equality of opportunity, which means the absence of obstacles for individuals based on their gender in participating in the economy, politics and the social sphere. Equality of opportunity for women and men is a condition where all individuals can freely develop their abilities (Roemer and Trannoy, 2016)²⁹⁷. Closely related to this term is the term Gender mainstreaming, which refers to the process of incorporating a gender perspective into any policy, legislation or action. This means that gender must not represent an obstacle in the application of policies or legislation.

We further looked at legislation in the field of gender equality in Slovakia and at European level. We identified important documents forbidding discrimination based on gender, race, skin colour, language, faith and religion, political or other thinking. Legislation is rich in the area of gender segregation and discrimination, but the results of quantitative analysis indicate that both phenomena persist in the labor markets, and therefore we can assess that the purpose of legislation is set correctly but not followed properly. This finding suggests that closer look at control mechanisms is needed as they do not fully fulfil their mission.

Furthermore, we identified the theoretical models of discrimination, specifically taste-based discrimination model and model of statistical discrimination. Both models show that women are discriminated against and have a disadvantage in comparison with men in the labor market. Few more important terms related to gender segregation needed to be explained. Horizontal and vertical segregation are important phenomena in gender segregation literature (Hakim, 1992²⁹⁸; Kacprzak, 2014²⁹⁹). The same applies to glass ceiling, sticky floor or glass escalator. We also identify the glass cliff term which is becoming to be more often mentioned term in the segregation literature (Vinnicombe, 2009³⁰⁰; Pereira and Paoloni, 2019³⁰¹). One of

²⁹⁶ Sen, Gita. 1999. *Gender Mainstreaming in Finance: A Reference Manual for Governments and Other Stakeholders*. Commonwealth Secretariat.

²⁹⁷ Roemer, E. John. - Trannoy, Alain. 2016. *Equality of Opportunity: Theory and Measurement*. Journal of Economic Literature, 54 (4): 1288-1332. DOI: 10.1257/jel.20151206.

²⁹⁸ Hakim, Catherine. 1992. *Explaining trends in occupational segregation: the measurement, causes, and consequences of the sexual division of labor*. European sociological review, 8(2), pp.127-152.

²⁹⁹ Kacprzak, A. 2014. Determinants of Vertical and Horizontal Gender Segregation in the Workplace in Poland. *Argumenta Oeconomica Cracoviensia*, (11), 63-80.

³⁰⁰ Vinnicombe, Susan. 2009. *Women on Corporate Boards of Directors: International Research and Practice*. Edward Elgar Publishing. ISBN 978-18-484-4519-2

³⁰¹ Pereira, T. Elisabeth – PAOLONI, Paola. *Handbook of Research on Women in Management and the Global Labor Market*. IGI Global. 2019. ISBN 978-15-225-9173-3

the most important terms we could not omit is the gender pay gap, which is an important indicator of remuneration inequality between men and women.

By summarizing the existing knowledge about important terms, legislation and models of discrimination that relate to gender segregation, we fulfilled the theoretical part of the dissertation thesis.

From a methodological point of view, we summarized various approaches to measuring gender segregation in the labor market and by selecting appropriate methods of its quantification, we identified sectoral and occupational segregations in the labor markets but also statistically verifiable indicators of segregation (indices) as well as the contributions of individual determinants of gender segregation from a range of personal and labor market characteristics. For research purposes we used database of publicly unavailable data from Eurostat (LFS, SES and EU-SILC).

The main goal of this dissertation thesis, i.e., to examine, scientifically process and quantify aspects of gender segregation on the labor market in European countries with a closer focus on the Slovak Republic, was fulfilled on the basis of 8 partial goals.

First two partial goals were to summarize theoretical approaches to gender segregation on the labor market in EU countries and to examine the legislative and legal protection of gender equality at the level of the Slovak Republic and the European Union. Both partial goals were considered to be a fundamental part of the dissertation thesis and their purpose was to obtain general knowledge of the gender segregation problematics. Both partial goals were fulfilled in the theoretical part of the dissertation thesis.

Further partial goals were examined in the empirical part of the dissertation thesis. Third partial goal was to quantify vertical and horizontal segregation at the level of sections of classification of economic activities NACE Rev. 2 and types of occupations (ISCO-08) at the groups level. Within the given partial goals, we analysed individual sectors and professions from the representation point of view of individual genders in a given sector or profession, which allowed us to identify male-dominated and female-dominated sectors and professions. Following this partial goal, a following hypothesis was established (H1): *“Gender segregation is higher in sectors and occupations that are considered typically “feminine” or female-dominated than in “masculine” or male-dominated”*. We reject this hypothesis, as it has been shown that male sectors and professions are represented by men to a greater extent than female

sectors and professions by women. This means that more men work in women's sectors and professions than women in men's sectors and professions (Table 4.1 and 4.3). These results are consistent with literature. Iclaves (2013)³⁰² argues that women have little representation in these industries, especially in technical and executive roles. The main issues that keep women from fully engaging are societal norms and stereotypes, or socio-psychological factors. According to Norberg and Johansson (2021)³⁰³, women are met with unreasonable expectations or discrimination. We consider this partial goal to be fulfilled.

Fourth partial goal was to quantify the indicators and indexes of gender segregation resulting from theoretical approaches to gender segregation. These indexes provide very useful information on the extent of the segregation and on the size of the necessary change in the labor market to completely eliminate segregation. Following this partial goal, a following hypothesis was established (H2): *“Gender segregation in the labor market is higher in countries that belonged to the so-called 'Eastern Bloc' compared to the countries of the 'West'”*. We confirm this hypothesis, as it has been shown in Cartogram 1 that shares of highly-segregated sectors in economy (sectors represented with at least 75 % of men or women) are much higher in former 'Eastern Bloc' countries and Cartogram 2 shows that share of women in high-skilled occupations (share of women in occupational groups 100-300 as a percentage of a women employed) is lower in former 'Eastern Bloc' countries (except Baltic countries). The values of indexes also proved that the percentage of the workforce that would need to change jobs to end segregation is higher in former 'Eastern Bloc' countries. Pollert (2003³⁰⁴, 2005)³⁰⁵ argues that gender segregation in former 'Eastern Bloc' has a different form than in the West but is still rather extreme. Kovačević and Šehić (2015)³⁰⁶ agree and argue that defining the social policy is a key to solve this issue. We consider this partial goal to be fulfilled.

Fifth partial goal was to quantify the unadjusted form of the gender pay gap in individual sectors and occupations of national economies both at the national and international level. We

³⁰² Iclaves, S. L. (2013). Women active in the ICT sector: executive summary.

³⁰³ Norberg, C., & Johansson, M. (2021). “Women and “ideal” women”: The representation of women in the construction industry. *Gender Issues*, 38(1), 1-24.

³⁰⁴ Pollert, A. (2003). Women, work and equal opportunities in post-communist transition. *Work, employment and society*, 17(2), 331-357.

³⁰⁵ Pollert, A. (2005). Gender, transformation and employment in Central Eastern Europe. *European Journal of Industrial Relations*, 11(2), 213-230.

³⁰⁶ Kovačević, J., & Šehić, D. (2015). The pursuit of a remedy for gender inequality in wider Europe: Comparison of policies and indices in the EU, Nordic countries, and south east Europe. *Economic Annals*, 60(204), 127-156.

consider this goal to be fulfilled as it is associated with more than one hypothesis which we tested:

(H3): *“Unadjusted gender pay gap is positively associated with female labor participation rate.”* We confirm this hypothesis (Figure 4.5). Women in European labor markets suffer from self-selection meaning that if they decide to become employed, they are very likely to be employed in lower paying jobs therefore many women decide to not find a job and rather stay at home to take care of their households. Results confirmed by Olivetti and Petrongolo (2008)³⁰⁷. Empirically, family policies positively affect female labor force participation but negatively affect the gender pay gap, according to Mandel and Semyonov (2005)³⁰⁸. Our results are also confirmed by Bhalotra and Fernandez (2018)³⁰⁹, who argue that increasing of female labor activity leads to widening the gender pay gap because higher labor supply reduces female wages.

(H4): *“Unadjusted gender pay gap is positively associated with education levels.”* This hypothesis is also confirmed as is shown in Table 4.11 where we can see that the gender pay gap rises with higher education attained (except secondary education). These results imply that men have, on average, higher returns on investments in education than women, however, this phenomenon is strongly intertwined with the choice of field of study. Moreover, Gender Enrolment Ratio shows that more there is more than one woman per one man in tertiary education, further confirming this assumption. The relationship broken down by countries also confirms the hypothesis (Table 4.12). Study of Brynin (2017)³¹⁰ confirms these results. Also, Rubery et al. (2005)³¹¹ show that in most European countries the returns on education are significantly higher for men.

(H5): *“Relationship between unadjusted gender pay gap and age has a concave (reversed U) shape.”* This hypothesis is strongly confirmed as the data showed that the gender pay gap rises until age group of 50-59 and then declines steeply (Table 4.12 and 4.13). Data

³⁰⁷ Olivetti, C., & Petrongolo, B. (2008). Unequal pay or unequal employment? A cross-country analysis of gender gaps. *Journal of Labor Economics*, 26(4), 621-654.

³⁰⁸ Mandel, H., & Semyonov, M. (2005). Family policies, wage structures, and gender gaps: Sources of earnings inequality in 20 countries. *American sociological review*, 70(6), 949-967.

³⁰⁹ Bhalotra, S. R., Fernández, M., & Wang, F. (2018). Women's labor force participation and the distribution of the gender wage gap. In IZA Working Paper.

³¹⁰ Brynin, M. (2017). The gender pay gap. Equality and Human Rights Commission (EHRC)[accessed: 22 June 2017].

³¹¹ Rubery, J., Grimshaw, D., & Figueiredo, H. (2005). How to close the gender pay gap in Europe: towards the gender mainstreaming of pay policy. *Industrial Relations Journal*, 36(3), 184-213.

also show that the rise is much steeper for young men than women suggesting that wage penalty for having a child is significant for women whose wages do not catch up with men throughout life-cycle. These results are also confirmed by Schrenker and Zucco (2020)³¹², who found that the gender pay gap increases rather sharply after the age of 30, mostly caused by significant reduction in working hours of women. Evans (2018)³¹³ and Smith (2019)³¹⁴ also confirms these results and further argue that older women are more likely to work in lower-paying jobs and less likely to hold management or executive positions than men or younger women.

(H6): “*Gender pay gap is higher in female-dominated sectors than in male-dominated sectors.*” We confirm this hypothesis in results from the Table 4.15 and 4.16 which show that gender pay gap is significantly higher in female-dominated sectors like Education or Human Health And Social Work Activities than in male-dominated like Construction or Electricity, Gas, Steam and Air Conditioning supply. This suggest that even though women are overrepresented in these sectors, they are mostly employed in lower hierarchical positions with lower wages and men are the ones who occupy higher managerial positions which are better paid. Results are consistent with Hedija (2017)³¹⁵ who argues that the proportion of women in the sector and ownership are the two most crucial variables in determining how the gender pay gap varies among the sectors. Foubert et al. (2010)³¹⁶ also claim that sectors with low proportion of women tend to report lower gender pay gaps mainly due to a disadvantage pay rates negotiations.

(H7): “*Gender pay gap is higher in high-skilled occupations than in low-skilled occupations.*” Results show that the conclusion of this hypothesis is ambiguous (Table 4.17 and 4.18), therefore this hypothesis is rejected. Gender pay gap in high-skilled occupations seems to be of a very similar, maybe even lower, magnitude like the one in low-skilled occupations.

Sixth partial goal was to quantify the adjusted form of the gender pay gap. “Adjusting” the gender pay gap means that we control for observable characteristics like individual

³¹² Schrenker, A., & Zucco, A. (2020). The gender pay gap begins to increase sharply at age of 30. DIW Weekly Report, 10(10), 75-82.

³¹³ Evans, T. (2018). Understanding the gender pay gap in the UK. Office of National Statistic.

³¹⁴ Smith, R. (2019). Gender pay gap in the UK: 2019. Statistical bulletin. London: Office for National Statistics.

³¹⁵ Hedija, V. (2017). Sector-specific gender pay gap: evidence from the European Union Countries. Economic research-Ekonomska istraživanja, 30(1), 1804-1819.

³¹⁶ Foubert, P., Burri, S., & Numhauser-Henning, A. (2010). The gender pay gap in Europe from a legal perspective (pp. 10-22). Luxembourg: Publications Office of the European Union.

characteristics and labor market characteristics. This partial goal is associated with the following hypothesis (H8): *“Individual characteristics (e.g., age, experience, education, etc...) reduce on average the gender pay gap to a greater extent than labor market characteristics”*. This hypothesis is confirmed in econometrical framework estimations (Table 4.19 and 4.20) where the estimates of the gender pay gap adjusted for personal characteristics have higher values than estimates adjusted for labor market characteristics. This means that personal characteristics of women are much higher than of men and have higher power in reducing the gender pay gap. However, considerable correlation between the personal and labor market characteristics has been found. UN WOMEN (2020)³¹⁷ found very similar results for Georgia, suggesting that this phenomenon is not prevalent only in Europe. We consider this partial goal to be fulfilled.

Seventh partial goal was to quantify the Oaxaca-Blinder decomposition of the gender wage gap into explained and unexplained parts. This goal is divided into two parts where one is and second is not accounting for sample selection problem. It is also associated one hypothesis (H9): *“The personal and labor market characteristics of individuals (the explained part of the gender pay gap) in the labor market have a greater influence on the gender wage gap in comparison with other factors (the unexplained part of the gender pay gap)”*. This hypothesis was rejected as results shown that explained part of the gender pay gap was significantly lower than unexplained part in both not-corrected and corrected samples. Furthermore, in Heckman-corrected sample we found that observable characteristics explain only a little part of the gender pay gap and significant part remains unexplained. Moreover, big slice of the unexplained part is accounted by constant term suggesting that there is a high proportion of unobservable characteristics that influence the gender pay gap. We consider this partial goal to be fulfilled. Boll and Lagemann (2018)³¹⁸ obtained similar results with only about 34% of the gender pay gap being explained part. Similar results were obtained in the study of Mysíková (2012)³¹⁹ for Visegrad group countries or Fuchs et al. (2021)³²⁰ for Germany.

³¹⁷ Women, U. N. (2020). Analysis of the Gender Pay Gap and Gender Inequality in the Labor Market in Georgia. Tbilisi, Georgia.

³¹⁸ Boll, C., & Lagemann, A. (2018). Gender pay gap in EU countries based on SES (2014). Luxembourg, Publication Office of the European Union, 10

³¹⁹ Mysíková, M. (2012). Gender wage gap in the Czech Republic and Central European countries. Prague economic papers, 21(3), 328-346.

³²⁰ Fuchs, M., Rossen, A., Weyh, A., & Wydra-Somaggio, G. (2021). Where do women earn more than men? Explaining regional differences in the gender pay gap. Journal of Regional Science, 61(5), 1065-1086.

The results show that gender segregation is persistent problem across the whole Europe in case of non-financial and financial aspects of the labor market. This fact led us to our last partial goal which aims at proposing recommendations to support gender equality in the labor market in the conditions of the Slovak Republic and eliminate gender segregation. The last partial goal is considered to be fulfilled in the next lines of this subchapter.

Proposed recommendations

Equality between men and women is a fundamental value of the European Union, which was enshrined from the very beginning, as the Treaty of Rome contained a provision on equal treatment and equal pay for equal work. In today's society, gender equality is an essential attribute for better functioning of society and respect for basic human rights. A country that wants to be considered democratic must promote equal rights for everyone, regardless of an individual's innate characteristics. In order to achieve gender equality between men and women in the labor market, we propose some recommendations.

In today's fast-paced world, it is very important to be able to balance personal and work obligations. It is in this aspect that women are often at a disadvantage compared to men, because they are responsible for taking care of the household, which is why finding a work-life balance is significantly more difficult for women. Subsequently, this situation is also reflected in the labor market, putting women at a disadvantage compared to men, for example in the form of having to work part-time or less hours. In order to eliminate the disadvantage of women or men, it is recommended to provide different forms of leave and flexible working conditions for employees, which would, in case of women, help pursue a professional career in addition to the role of mother. The current trend brought about by the COVID-19 pandemic is the possibility of working from home. We propose to continue the trend of introducing this option, because it brings an improvement in the work-life balance relationship (Irawanto et al., 2021³²¹; Ipsen et al., 2021³²²) by reducing the commuting time, more time spent with the family, and thereby improving family relationships in particular more time spent with children, however, only to extent that it does not affect the work and social relations. Meanwhile, according to the

³²¹ Irawanto, D. W., Novianti, K. R., & Roz, K. (2021). Work from home: Measuring satisfaction between work–life balance and work stress during the COVID-19 pandemic in Indonesia. *Economies*, 9(3), 96.

³²² Ipsen, C., van Veldhoven, M., Kirchner, K., & Hansen, J. P. (2021). Six key advantages and disadvantages of working from home in Europe during COVID-19. *International Journal of Environmental Research and Public Health*, 18(4), 1826.

literature, a significant decrease in worker productivity is not observed (Chung et al. 2020³²³; Barrero et al., 2021³²⁴) suggesting that happy worker is productive worker. In addition, we propose expanding the provision of services for children, which are interesting for parents in terms of quality, price, but also availability - nurseries, kindergartens, or schools with suitable equipment in the same city. According to Slovak Centre of Scientific and Technical Information³²⁵, in the 2022/2023 school year, more than 19,000 applications to enrol children in kindergartens were rejected (for comparison, 17,500 applications were rejected in 2021/2022 school year), mainly because there are few kindergartens and, in many neighbourhoods, they are not located at all. Although this number is not identical to the number of rejected children, as parents can apply to several kindergartens at the same time, this clearly shows that a relatively large group of children will not get into kindergartens. Increasing capacity and providing possibilities for placing children in pre-school facilities will make it easier for women to balance work and family and give women the opportunity to re-enter the workforce. Furthermore, we propose to improve a system of alternating parental leave. From November 2022, fathers can take 2 weeks of paternity leave after the birth of a child, regardless of whether the child's mother receives maternity or parental allowance. A similar policy has been in place for years in Norway, where in 2010 around 40 percent of fathers took eight or more weeks of paternity leave, which can currently be as long as 16 weeks. The improvement of alternating parental leave in Slovakia, according to the Norwegian model, might have a positive impact on the employment of women and on their return to the labor market or the narrowing of the gender pay gap.

Furthermore, we recommend a more significant inclusion of women in the labor market and in industries that are less feminized, in the business sphere, but also in the political sphere, in which they are still not sufficiently supported by the public. Our results showed that women are very underrepresented in highly masculinized industries. It is in these industries that it is necessary to create job positions for women, especially in higher positions. The potential of women in these industries is very large and significantly underutilized. The state should consider different types of motivation for employers, for example in the form of subsidies or tax breaks for such positions. The ultimate solution would be the introduction of gender quotas,

³²³ Chung, H., Seo, H., Forbes, S., & Birkett, H. (2020). Working from home during the COVID-19 lockdown: Changing preferences and the future of work.

³²⁴ Barrero, J. M., Bloom, N., & Davis, S. J. (2021). Why working from home will stick (No. w28731). National Bureau of Economic Research.

³²⁵ Slovak Centre of Scientific and Technical Information. 2022. Statistical yearbook - kindergartens. Available at <<https://bit.ly/3i0TzhR>>

which would have to be precisely determined by law as a minimum percentage of women represented in management positions. However, we emphasize that this measure should first be significantly analysed and its impacts quantified. However, such a measure is currently being implemented in European countries, so its introduction in the Slovak Republic would not be entirely surprising. For example, Norway adopted a far-reaching model of positive action concerning the participation of women in the boards of commercial companies, requiring a minimum of 40 % of women on all company boards of publicly listed companies. Also, Finland adopted the 40 % flexible quota requirement for all public administration bodies and bodies exercising public authorities. Austria set its representation threshold at 45 % for public employers since the year 2009. Ireland adopted the 40 % quota for executive boards of public services broadcasting companies (Selanec and Senden, 2013)³²⁶. Therefore, implementation of this action would be one of the possibilities.

Another of our recommendations is to provide requalification and education programs aimed specifically at women. Many women have problems reintegrating into the working environment after maternity leave. The time that women spend outside the labor market due to maternity leave is considered a disadvantageous compared to men who are actively working during this period. Therefore, it is necessary to provide women with the possibility of retraining, requalification and re-education in order to facilitate their return to the labor market and also to restore their working habits. Even though there are programs in Slovakia whose task is to provide these type of courses (REPAS+, KOMPAS+), women after maternity leave are not exactly among their priorities. We believe that it is necessary to create new projects and programs in which women are a priority, especially women after maternity leave. In a similar sense, new programs similar to those in which the Slovak Republic is involved at the national and international level should be implemented, such as the Gender Equality in the Workplace project, the key purpose of which is to support women's participation in the labor market, but also to contribute to the creation of systemic measures for the implementation of the policy reconciliation of family and work life in the conditions of the Slovak Republic.

Significant progress in achieving gender equality in the labor market would be brought by implementing the concept of gender mainstreaming in the Slovak Republic. According to

³²⁶ Selanec, G., & Senden, L. (2013). Positive action measures to ensure full equality in practice between men and women, including on company boards. EUR-OP.

EIGE (2017)³²⁷, gender mainstreaming entails incorporating a gender perspective into the planning, development, implementation, supervision, and assessment of policies, regulatory measures, and expenditure programs with the goal of advancing gender equality and eradicating discrimination. Through the inclusion of gender perspectives, policy and legislative work is made to be more effective and relevant for society. In order to include a gender perspective into a policy, all parties involved in the process must consider gender equality in all choices and during each stage of the policymaking process. Public interventions are more successful when gender mainstreaming is used, and inequalities are prevented from recurring. Even though there is no legal foundation for gender mainstreaming at the national level in the Slovak Republic, there is a binding policy commitment. The only framework for gender mainstreaming is provided by the National strategy for equality between women and men and equal opportunities in the Slovak Republic for the years 2020-2025 (2020), which envisions it as the key policy approach in the field of gender equality. However, as is stated in the document, weak application of the perspective of equality between women and men (gender mainstreaming) in the creation and implementation of policies of public administration bodies occurs in the Slovak Republic. Therefore, we propose to improve this situation by putting more emphasis on implementation and compliance with the gender perspective in national policy and legislative work.

Regarding wage inequalities, we propose to establish a control office whose task will be to supervise compliance with the legislative and legal obligation of employers to provide equal pay for equal work to all employees. This measure may seem extreme, but as the results of this dissertation have shown, the gender pay gap is a significant problem in all the countries studied, and in the Slovak Republic in particular. For this reason, it is necessary to deal with such possibilities for solving the problem of the gender wage gap and inequalities in remuneration, in general. However, since such a measure would be unpopular and very difficult to implement, we propose a more subtle approach of obligation to report by employers that they provide the equal pay for equal work to all their employees. A model example of this measure should be Iceland, which in 2017 adopted a law according to which all companies with more than 25 employees in the country must demonstrate that they pay all employees equal wage for equal work, regardless of gender, sexual orientation or ethnicity. The government control office then issues a certificate valid for 3 years to the employer, which confirms that the law has been

³²⁷ European Institute for Gender Equality, (2017). What is gender mainstreaming?, Publications Office. <https://data.europa.eu/doi/10.2839/76981>

complied with. However, within the business sector there has been criticism that the standard imposes a burden on companies and that it should be kept voluntary. Interesting practice is also in France, where employers are obliged to address the issue of equal pay by giving the information they have on equality to workers' representatives. Businesses with 50 or more employees are required to provide an annual written report to the works council that compares the status of men and women in the organization. This must include a comparison of hiring, training, education, pay, working conditions, and balancing work and personal life, supported by statistical data. Moreover, the employer must summarize the steps taken by the business over the last year to achieve employment equality, as well as a general description of the goals for the coming year (Burri, 2019)³²⁸. Implementation of measures like this should be also considered in the Slovak Republic because their contribution might help in tackling the gender segregation and inequalities.

³²⁸ Burri, S. D. (2019). National cases and good practices on equal pay. Publications Office of the European Union.

Conclusion

The issue of gender segregation in the labor market is a very complex problem not only in the Slovak Republic, but also in other European countries. Despite the rich legislation that is supposed to function as a prevention against gender segregation, we are witnessing persistent differences in the labor market between men and women, not only in terms of the distribution of workers in the economy, but especially in remuneration. Therefore, we consider gender segregation to be an unsurpassed problem that is present in the developed and democratic countries of Europe. In society, we encounter gender segregation on a daily basis in various industries or at various job levels, while as a society we know that segregation is an obstacle to achieving basic human rights and freedoms.

Researching gender segregation in the labor market has become a personal challenge for us, even though we are aware that it is a difficult problem. A very large number of variables enter the equation of gender segregation that must be taken into account, from personal choice to societal expectations. Despite this, we tried to fulfill the goal of the dissertation, which was to examine, scientifically process and quantify the aspects of gender segregation in the labor market in the European countries with a closer focus on the Slovak Republic. We believe that we managed to fulfill this goal even with the help of fulfilling partial goals. The first chapter of this dissertation deals with the characteristics of the basic terms associated with gender segregation. The results of this chapter are based on the scientific works of authors who have been dealing with this issue for decades.

Based on our research, we conclude that gender segregation according to age, education, sector or profession is still persistent in all the countries studied, regardless of whether the examined countries have undergone a transformation from a planned to a market economy in the past or not. Furthermore, we state that we managed to identify the level of horizontal segregation, through which we can identify sectors that are strongly feminized and masculinized and thus confirm the presence of gender segregation in labor markets. Strongly feminized sectors include, for example, Education or Human Health and Social Work Activities, where in some countries the representation of women in the given sector is more than 80%. Conversely, strongly masculinized industries include, for example, Construction or Mining and Quarrying, where the representation of men is usually 80-85%. The results also showed that horizontal segregation is stronger in the countries of the former Eastern Bloc compared to the countries of the West. As for vertical segregation, it proved to be stronger both

in the countries of the former Eastern Bloc and in southern countries around the Mediterranean Sea. However, the results showed that gender balance is acceptable in high-skilled professions. However, these results are significantly distorted by the aggregation of data to the level of ISCO groups.

Our research also dealt with indices of gender segregation in the labor market, which provide an answer to the question of how many percent of workers would have to change industry/position for gender equality to occur. At first glance, the results indicate high index values from 31 to 41% in the case of the Dissimilarity Index, the MSS Index also takes on similar values. In the case of the Karmel-Lachlan Index, due to the method of calculation, the values are approximately halved from 10.5% to 20.5 %. Similar values are obtained by the indices in the case of calculating the change of workers in industries (NACE) and in professions (ISCO), which means that on average up to one third of workers would have to change their job in order to eliminate gender segregation in the labor market. A very high number, which is also confirmed by older literature (Emerek et al., 2003³²⁹; Bettio and Verashchagina, 2009)³³⁰, indicating that the situation of gender segregation in the labor market has not changed significantly over time.

From a financial point of view, it was confirmed that the gender pay gap is present in all examined countries. The highest values were measured in Germany and the Czech Republic (19.6% and 24.6%, respectively), on the other hand, Romania demonstrated that their women and men are equal in terms of remuneration. The analysis by education showed that the gender pay gap increases with increasing education, a result consistent with other literature (Olsen and Walby, 2004³³¹; Boll et al., 2016³³²). The relationship between the gender pay gap and age has a similar trend with the shape of an inverted U with a peak in the group of 50-59-year-olds, which is mainly caused by the fact that women decide to start a family and have children around the age of 30 and very hardly catch up with men in terms of wages. This finding is also confirmed by Schrenker and Zucco (2020)³³³. The gender wage gap has been shown to be higher

³²⁹ Emerek, R., Figueiredo, H., González, P., Gonäs, L., & Rubery, J. (2003). Indicators on gender segregation. Rapport, CETE, Faculdade de Economia, Universidade do Porto.

³³⁰ Bettio, F., Verashchagina, A., & Camilleri-Cassar, F. (2009). Gender segregation in the labor market: Root causes, implications and policy responses in the EU.

³³¹ Olsen, WK, & Walby, S. (2004). Modeling gender pay gaps.

³³² Boll, C., Leppin, J., Rossen, A., & Wolf, A. (2016). Magnitude and impact factors of the gender pay gap in EU countries. Report Prepared for and Financed by the European Commission-Directorate-General for Justice, European Union (Hrsg.), Hamburg.

³³³ Schrenker, A., & Zucco, A. (2020). The gender pay gap begins to increase sharply at the age of 30. DIW Weekly Report, 10(10), 75-82.

in sectors that are strongly represented by women, especially Education and Human Health And Social Work Activities, but also high in the Information and Communication sector, however, the male gender predominates in this sector. Similar values of the gender wage gap were also measured in the study by Hedija (2017)³³⁴. In terms of occupations, a high gender pay gap was demonstrated in the group of Managers (32.3%) and Craft and related trades workers (43.3%), of which the first mentioned group is high-skilled and the second low-skilled. This finding indicates that there is a strong glass ceiling effect and a sticky floor effect. The result also corresponds to older literature (Arulampalam et al., 2007)³³⁵, which means that these two phenomena persist in the labor markets for a long time.

By adjusting the gender wage gap to control personal characteristics and labor market characteristics, we demonstrated that both factors represent significant variables in determining the gender pay gap. The results showed that personality characteristics work in favor of women, because if women and men had the same characteristics, the gender wage gap would double (from approximately 10 to 20%). A result consistent with Boll and Lagemann (2018)³³⁶. A very similar scenario would occur even after controlling for labor market factors, but to a lesser extent. Controlling for both influences produced the most unfavorable result, as the gender wage gap would be multiplied 2.5 times. However, despite the countries studied, the estimates are quite heterogeneous.

The last part of the analysis focused on the decomposition of the gender wage gap into explained and unexplained parts. The analysis used the Oaxaca-Blinder decomposition method with and without Heckman sample correction. The results showed that observable characteristics can explain a small part of the gender pay gap (10-30%) and a large part remains unexplained. This means that there are other factors that are unobserved and determine the gender pay gap. These may include discrimination to a large extent or the power and density of unions in the labor market. However, to a certain extent, the imperfection of the observed variables is also responsible for a large part. The employee's profession and education played the biggest role in reducing the gender wage gap. On the contrary, the strongest determinant in

³³⁴ Hedija, V. (2017). Sector-specific gender pay gap: evidence from the European Union Countries. *Economic research - Economic research*, 30(1), 1804-1819.

³³⁵ Arulampalam, W., Booth, AL, & Bryan, ML (2007). Is there a glass ceiling over Europe? Exploring the gender pay gap across the wage distribution. *Ir Review*, 60(2), 163-186.

³³⁶ Boll, C., & Lagemann, A. (2018). Gender pay gap in EU countries based on SES (2014). Luxembourg, Publication Office of the European Union, 10.

increasing the gender wage gap is age and the industry in which a person works. This again confirms that horizontal segregation is a persistent problem in labor markets.

Certain changes need to be made to reduce gender segregation in the labor market. At the end of the work, we propose several measures that should help to reduce gender segregation. It is clearly necessary to support the creation of jobs suitable for women in male-dominated sectors, but on the contrary also for men in strongly feminized ones, because horizontal segregation has proven to be very strong across all examined countries. The state should also focus on stimulating employers to provide more jobs for women in higher positions and not be discouraged by the fact that women are potential mothers. In reality, often happens that women find it very difficult to combine family and work duties, mainly due to the need to spend a long time with children. For this reason, we also propose to increase the number and capacity of preschool facilities caring for children. Also, the introduction of retraining and reeducation courses would enable women to return to the labor market earlier. In order to reduce the gender pay gap, we propose to introduce an obligation for employers to report compliance with the principle of equal pay for equal work for all employees, following the example of Iceland and France.

The introduction of these measures should significantly contribute to the reduction of gender segregation in the labor market, whether in Slovakia or in other countries, but we assume that a lot of time will pass before segregation disappears from the labor market.

Resumé

Napriek vysokému stupňu rozvoja modernej spoločnosti pretrvávajú nerovnosti medzi mužmi a ženami. Krajiny Európskej únie vrátane Slovenska sa boria predovšetkým s nerovnosťou na trhu práce, čo je jedna z najvážnejších vecí. Aj keď je rodová rovnosť zakotvená v európskych zákonoch, neustále sa stretávame s čoraz väčšími rozdielmi medzi mužmi a ženami v rôznych oblastiach ich života, vrátane tých na trhu práce. Problém rodovej segregácie na trhu práce sa do povedomia spoločnosti dostáva najmä vďaka médiám, v ktorých sa tento fenomén na trhu práce stáva čoraz diskutovanejšou témou.

Rodovú segregáciu na trhu práce charakterizuje najmä výrazne nižšia miera zamestnanosti žien ako mužov, ale aj vyššia nezamestnanosť, najmä dlhodobá. Ženy sú znevýhodnené aj z hľadiska odmeňovania, keďže rodové rozdiely v odmeňovaní zvýhodňujú mužov takmer vo všetkých odvetviach a povolaniach. Podobne sú muži vo výhode, pokiaľ ide o hierarchické zastúpenie v riadiacich či legislatívnych pozíciách.

Napriek trendu zvyšovania vzdelanosti žien nie sú za svoju snahu adekvátne ohodnotené. Vzdelanie je vnímané ako účinný nástroj ekonomického rozvoja a napredovania spoločnosti, ale aj na uplatnenie sa na trhu práce, najmä u žien, či ako nástroj sociálneho pokroku a emancipácie. Problém však nastáva v tom, že návratnosť investície do vzdelania nie je rovnaká u mužov a žien, čo sa následne premieta do mzdového odmeňovania na trhu práce.

Problematika rodovej segregácie na trhu práce je veľmi zložitá. Výber témy dizertačnej práce preto nie je náhodný. Hlavným cieľom dizertačnej práce je preskúmať, vedecky spracovať a kvantifikovať aspekty rodovej segregácie na trhu práce v európskych krajinách, ale aj zvýšiť povedomie spoločnosti o tejto problematike a potrebe jej každodenného riešenia.

Práca je rozdelená do 5 kapitol, z ktorých prvá sa zaoberá základnými pojmami spojenými s témou rodovej segregácie na trhu práce. Považujeme za potrebné vysvetliť podstatu pojmov ako pohlavie a rod, ale aj rodové roly a stereotypy. Kapitola je zameraná aj na dôležité pojmy z oblasti rodovej rovnosti na trhu práce, s ktorými sa dennodenne stretávajú najmä ženy, ako sklenený strop, lepkavá podlaha, sklenený eskalátor či sklenený útes. Dôležitou súčasťou tejto kapitoly je aj vysvetlenie legislatívneho zabezpečenia rodovej rovnosti na trhu práce na národnej, ale aj medzinárodnej či celosvetovej úrovni. Druhá a tretia kapitola sa zameriavajú na stanovené ciele, hypotézy a metodiku použitú v práci, ako aj na vysvetlenie údajov použitých pri výskume rodovej segregácie na trhoch práce.

Štvrtá kapitola prináša výsledky empirickej analýzy, kde sme sa zaoberali horizontálnou a vertikálnou segregáciou, ako aj tromi indexmi rodovej segregácie, pomocou ktorých sme

identifikovali rozsah rodovej segregácie, sektorovej aj profesijnej, a mieru potrebnej zmeny na trhu práce na jej odstránenie. Empirická časť je zameraná aj na rodové nerovnosti v odmeňovaní, najmä na identifikáciu rodového mzdového rozdielu v neupravenej forme z hľadiska veku, vzdelania, odvetvia či povolania a v upravenej forme vo viacerých modelových špecifikáciách a dátových vzorkách. Výsledky z tejto kapitoly sú konfrontované s poznatkami z odbornej literatúry. Piata kapitola s názvom „Diskusia“ sa zaoberá vyhodnotením stanovených hypotéz a uvádza odporúčania autora na riešenie problematiky rodovej segregácie na trhu práce na základe výsledkov empirickej časti dizertačnej práce. V Závere zhŕňame výsledky práce a konfrontujeme ich s výsledkami autorov vedeckej odbornej literatúry.

Teoretická časť

Otázkam rodovej rovnosti sa vo vedeckom výskume venuje stále väčšia pozornosť. Aj vďaka tomu sa nejasnosti v jednotlivých pojmoch spojených s touto problematikou neustále znižujú. V úvodnej časti dizertačnej práce sa zameriavame na charakteristiku dôležitých pojmov, s ktorými sa budeme následne v práci stretávať a ktoré je nevyhnutné poznať pre hlbšie skúmanie problematiky ako i na legislatívu rodovej rovnosti.

Základom pri riešení problematiky rodovej rovnosti je potrebné poznať rozdiely medzi pojmami pohlavie (angl. sex) a rod (angl. gender), pretože tieto dva pojmy nemajú rovnaký význam. Johnson a Repta (2012)³³⁷ definujú pohlavie ako biologický konštrukt, ktorý v sebe zahŕňa anatomické, fyziologické, genetické a hormonálne variácie, ktoré sa vyskytujú u rôznych druhov bytostí, nielen u ľudí. Podľa Oakley (1985)³³⁸ je pohlavie pojem, ktorý odkazuje na biologické rozdiely medzi mužmi a ženami ako napríklad viditeľný rozdiel v genitáliách a súvisiaci rozdiel v reprodukčnej funkcii.

Rod (gender) je v súčasnosti veľmi moderným pojmom. Zatiaľ čo pohlavie je determinované biologicky, pri rode hovoríme o determinácii prostredníctvom kultúry. Torgimson a Minson (2005)³³⁹ definujú rod ako behaviorálne, kultúrne alebo psychologické vlastnosti, ktoré sú zvyčajne spojené s jedným z pohlaví. Barátová (2009)³⁴⁰ o rode tvrdí, že označuje individuálnu prax súvisiacu so spoločensky danými, historicky rozvinutými

³³⁷Johnson, Joy – Repta, Robin. *Sex and Gender: Beyond the Binaries*. 2012. DOI:10.4135/9781452230610.N2

³³⁸Oakley, Ann. *Sex, gender and society*. Temple Smith. 1985. London. ISBN 978-08-5117-021-3

³³⁹Torgimson, Britta, Minson, Christopher. *Sex and gender: what is the difference?*. 2005. *Journal of Applied Physiology*. 99: 785–787.

³⁴⁰Barátová, Jana. *Rodové nerovnosti na trhu práce*. Almanach – Aktuálne otázky svetovej ekonomiky a politiky. 2009. Ekonomická univerzita v Bratislave.

pravidlami, očakávaniami a pozíciami. Rod označuje tie aspekty pohlavia, ktoré vnímame ako sociálny, spoločenský a kultúrny konštrukt.

Rodová rola je súhrn predstáv o tom, ako by sa ženy a muži v rámci určitej kultúry a spoločenského prostredia mali správať, vyjadrovať, obliekať, myslieť a podobne. Podľa Blackstone (2003)³⁴¹ sú rodové roly založené na rôznych očakávaniach, ktoré jednotlivci, skupiny a spoločnosti od jednotlivcov majú, na základe ich pohlavia a na základe hodnôt a presvedčení každej spoločnosti o rode. Lee a kol. (2005)³⁴² tvrdia, že rodové roly, ktoré každý z nás plní, sú vysoko individualistické, postavené na našich biologických a fyzických vlastnostiach, vzhľade a sexualite, životných skúsenostiach, ako je detstvo, kariéra či vzdelávanie, a histórii sexuálnych a romantických interakcií.

Podľa Brozmanová Gregorová a Šolcová (2014)³⁴³ predstavujú rodové stereotypy nerealistický a idealizovaný obraz toho, ako by sa mali správať „ideálni muži“ a „ideálne ženy“. Jesenková (2019)³⁴⁴ považuje rodové stereotypy za zjednodušené, idealizované (a teda často nereálne a nerealizovateľné) obrazy a mužskosti a ženskosti, ktoré fungujú ako očakávania a vzory vo všetkých oblastiach života.

Rodová diskriminácia sa týka akéhokoľvek rozlišovania, vylučovania alebo obmedzovania na základe sociálne konštruovaných rodových rolí a noriem, ktoré bránia osobe v uplatňovaní úplných ľudských práv (Cottingham a kol. 2001)³⁴⁵. Wayne (1995)³⁴⁶ hovorí, že v kontexte pracovnej sily možno pojem diskriminácia definovať ako poskytnutie neférovej výhody (alebo nevýhody) členom konkrétnej skupiny v porovnaní s členmi inej skupiny. Rodová diskriminácia na trhu práce obmedzuje dostupné talenty v ekonomike, čo má negatívne ekonomické dôsledky.

Podľa Ivanco a kol. (2010)³⁴⁷ sa v praxi môžeme stretnúť s viacerými druhmi diskriminácie:

- priama a nepriama diskriminácia,

³⁴¹ Blackstone, Amy. *Gender Roles and Society*., Human Ecology: An Encyclopedia of Children, Families, Communities, and Environments. 2003. ISBN I-57607-852-3.

³⁴² Lee, Janice. *Gender Roles*. 2005. New York: Nova Biomedical Books. ISBN 1-59454-213-9.

³⁴³ Brozmanová Gregorová, Alžbeta. – Šolcová, Jana. *Rodová problematika v sociálnej práci s rodinou*. Determinanty využívania flexibilizácie práce v SR z pohľadu rodiny a ich implementácia do sociálneho systému. 2014. Ekonomická fakulta UMB. ISBN 978-80-557-0696-2.

³⁴⁴ Jesenková, Adriana. *Rod, rodová rovnosť a rodová spravodlivosť alebo filozoficko-teoretické východiská pre politiku rodovej rovnosti*. 2019. Rodová rovnosť na univerzite: Kontexty a perspektívy. UVPJŠ v Košiciach. Košice. ISBN 978-80-8152-748-7

³⁴⁵ Cottingham, Jane. et al. *Transforming health systems: Gender and rights in reproductive health*. 2001. WHO

³⁴⁶ Wayne, F. Cascio. *Managing Human Resource, Productivity, Quality of work life, Profits*. 1995. McGraw Hill International (4th edition)

³⁴⁷ Ivanco, Štefan a kol. *Povedzme nie diskriminácii alebo ako sa brániť prostredníctvom práva*. Poradňa pre občianske a ľudské práva. 2010. Košice. ISBN 978-80-970354-6-4.

- obťažovanie,
- sexuálne obťažovanie,
- pokyn na diskrimináciu,
- nabádanie na diskrimináciu a
- neoprávnený postih.

Rodová rovnosť patrí k základným právam a je taktiež základnou hodnotou demokratickej spoločnosti. Predstavuje jeden z dôležitých ukazovateľov úrovne rozvoja demokracie a uplatňovania demokratických princípov v spoločnosti. Porubánová (2005)³⁴⁸ definuje rodovú rovnosť ako rovnakú viditeľnosť, rovnaké postavenie a rovnakú účasť oboch pohlaví vo všetkých sférach verejného a súkromného života s cieľom plnohodnotného spoločenského uplatnenia mužov i žien. Podľa Pietruchovej (2007)³⁴⁹ rodová rovnosť predstavuje spravodlivé zaobchádzanie so ženami a mužmi, ktoré vychádza z princípu, že všetky ľudské bytosti majú právo slobodne rozvíjať svoje schopnosti a vyberať si z možností bez obmedzení rodovými rolami.

Podpora základných práv, nediskriminácie a rovnosti príležitostí ako jeden zo základných princípov Európskeho spoločenstva stavia na demokratických tradíciách európskej občianskej spoločnosti. Rovnosť príležitostí žien a mužov je podľa Národnej stratégie rodovej rovnosti³⁵⁰ definovaná ako *„súčasť koncepcie rovnosti, ktorá presadzuje, aby ženy a muži mali rovnaké východiskové podmienky pre účasť na živote spoločnosti v ekonomickej, politickej a sociálnej oblasti. Rovnosť príležitostí neznamena rovnaké podmienky žien a mužov, pretože s ohľadom na vek, pohlavie, zdravotné postihnutie, vzdelanie, rodinné povinnosti a ďalšie faktory treba vytvárať rôzne podmienky na zabezpečenie rovnakých príležitostí a ich využívania.“*

Teoretická časť práce sa ďalej zaoberá legislatívou v oblasti rodovej rovnosti na Slovensku a vo svete. Podľa článku 12 odseku 1 Ústavy SR³⁵¹ sú *„Ľudia slobodní a rovní v dôstojnosti i v právach. Základné práva a slobody sú neodňateľné, nescudziteľné, nepremlčateľné a nezrušiteľné.“* Zákoník práce taktiež vymedzuje rodovú rovnosť, keďže v článku 6 hovorí, že *„Ženy a muži majú právo na rovnaké zaobchádzanie, ak ide o prístup k zamestnaniu, odmeňovanie a pracovný postup, odborné vzdelávanie a o pracovné podmienky.“*

³⁴⁸ Porubánová, Sylvia. *Realita a výzvy rodovej rovnosti na Slovensku*. Bratislava: F. Ebert Stiftung. 2005. ISBN 80-89149-07-3.

³⁴⁹ Pietruchová, Oľga. *Príručka uplatňovania rovnosti príležitostí v projektoch spolufinancovaných EÚ*. Ministerstvo práce sociálnych vecí a rodiny Slovenskej republiky. 2007. ISBN 978-80-89125-12-8.

³⁵⁰ Národná stratégia rodovej rovnosti na roky 2009-2013. [cit. 9.9.2021]. [online]. Str.3
Dostupné na: <<https://www.nrsr.sk/web/Dynamic/DocumentPreview.aspx?DocID=333744>>

³⁵¹ Ústavný zákon č. 460/1992 Zb. Ústava SR. [cit. 10.9.2021]. [online]. Dostupné na: <<https://www.slovlex.sk/pravne-predpisy/SK/ZZ/1992/460/19980805.html>>

Ženám sa zabezpečujú pracovné podmienky umožňujúce im účasť na práci s ohľadom na ich fyziologické predpoklady a s ohľadom na ich spoločenskú funkciu v materstve a ženám a mužom s ohľadom na ich rodinné povinnosti pri výchove detí a starostlivosti o ne.“

Veľmi dôležitým dokumentom je zákon 365/2004 Z.z.³⁵² o rovnakom zaobchádzaní, ktorý hovorí, že „*V súlade so zásadou rovnakého zaobchádzania sa v pracovnoprávných vzťahoch, obdobných právnych vzťahoch a v právnych vzťahoch s nimi súvisiacich zakazuje diskriminácia osôb z dôvodu ich pohlavia, náboženského vyznania alebo viery, rasového pôvodu, národnostného alebo etnického pôvodu, zdravotného postihnutia, veku alebo sexuálnej orientácie.*“

§ 14 odsek 2 zákona 5/2004³⁵³ o službách zamestnanosti a o zmene a doplnení niektorých zákonov hovorí, že „*Občan má právo na prístup k zamestnaniu bez akýchkoľvek obmedzení v súlade so zásadou rovnakého zaobchádzania v pracovnoprávných vzťahoch a obdobných právnych vzťahoch ustanovenou osobitným zákonom.*“

Jeden zo základných dokumentov je Celoštátna stratégia rodovej rovnosti žien a mužov a rovnosti príležitostí v Slovenskej republike na roky 2021-2027 a k nej Akčný plán rovnosti žien a mužov a rovnosti príležitostí na roky 2021-2027. Schválením týchto dvoch dokumentov vládou sa Slovensko zaviazalo k prijatiu pozitívnych opatrení zameraných na dosiahnutie rovnosti žien a mužov a rovnosti príležitostí.

Článok 119 Rímskych zmlúv³⁵⁴ pojednáva o rodovej rovnosti v odmeňovaní za rovnakú prácu. Odmena podľa tohto článku zodpovedá základnej alebo minimálnej mzde alebo platu a zároveň ďalším formám odmeny, peňažnej alebo nepeňažnej, ktoré je zamestnávateľ povinný vyplácať zamestnancovi na základe pracovného pomeru.

Podľa článku 2 Amsterdamskej zmluvy (1997)³⁵⁵ je úlohou spoločenstva utvorenie spoločného trhu, hospodárskej a menovej únie a uskutočňovanie spoločných politík a činností, medzi ktoré patria trvalo udržateľný rozvoj hospodárskych činností, vysoká úroveň zamestnanosti a sociálnej ochrany, rovnoprávne postavenie žien a mužov, zvyšovanie životnej úrovne a kvality života či hospodárska a sociálna súdržnosť a solidarita.

³⁵² Zákon 365/2004 Z.z. o rovnakom zaobchádzaní v niektorých oblastiach a o ochrane pred diskrimináciou a o zmene a doplnení niektorých zákonov. [cit. 10.9.2021]. [online]. Dostupné na: <<https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2004/365/>>

³⁵³ Zákon 5/2004 o službách zamestnanosti a o zmene a doplnení niektorých zákonov. [cit. 10.9.2021]. [online]. Dostupné na: <<https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2004/5/20060101.html>>

³⁵⁴ Rímske zmluvy. 1957. Európske hospodárske spoločenstvo. [online]. [cit. 12.9.2021]. Dostupné na: <<https://www.nrsr.sk/web/Static/sk-SK/EU/Doc/zmluva-o-euratome.pdf>>

³⁵⁵ Amsterdamská zmluva, ktorá mení zmluvu o Európskej únii, zmluvy o založení Európskych spoločenstiev a niektoré súvisiace akty. 1997. [online]. [cit. 12.9.2021]. Dostupné na: <<https://www.nrsr.sk/web/Static/sk-SK/EU/Doc/amsterdamska-zmluva.pdf>>

Dostupné na: <<https://www.nrsr.sk/web/Static/sk-SK/EU/Doc/amsterdamska-zmluva.pdf>>

Podľa článku 2 Lisabonskej zmluvy (2007)³⁵⁶ Európska únia „*Bojuje proti sociálnemu vylúčeniu a diskriminácii a podporuje sociálnu spravodlivosť a ochranu, rovnosť medzi ženami a mužmi, solidaritu medzi generáciami a ochranu práv dieťaťa.*“

V marci 2010 bola Európskou komisiou prijatá Charta žien³⁵⁷, ktorá vymedzuje určité zásady rovnosti medzi ženami a mužmi. Medzi hlavné zásady patria:

- rovnaká ekonomická nezávislosť žien a mužov, zabezpečená plnou realizáciou potenciálu žien a plným využitím ich schopností či podpora rodovej vyváženosti na trhu práce,
- rovnaká odmena za rovnakú prácu a prácu rovnakej hodnoty,
- rovnosť pri prijímaní rozhodnutí prostredníctvom spravodlivejšieho zastúpenia žien a mužov na mocenských pozíciách vo verejnom živote a ekonomike,
- koniec násilia založeného na rodovej príslušnosti,
- podporovanie rodovej rovnosti mimo Únie prostredníctvom spolupráce s medzinárodnými a regionálnymi organizáciami.

Akčný plán EÚ pre ľudské práva a demokraciu na roky 2020 – 2024 (2020)³⁵⁸, ktorý uviedla do platnosti Európska komisia v marci roku 2020 hovorí o tom, že je potrebné „*Chrániť a posilniť postavenie jednotlivcov, čo znamená zabezpečiť, aby mohol každý naplno požívať občianske a politické práva, rovnako ako aj hospodárske, sociálne a kultúrne práva. Posilnenie postavenia všetkých ľudí (zásada „na nikoho nezabudnúť“) spočíva v tom, že sa každému umožní, aby mohol naplno využívať svoj potenciál ako rovnocenný a aktívny člen spoločnosti.*“

Charta Organizácie Spojených Národov (1945)³⁵⁹ v článku 1 deklaruje za cieľ Organizácie Spojených Národov „*uskutočňovať medzinárodnú spoluprácu riešením medzinárodných problémov hospodárskeho, sociálneho, kultúrneho alebo humanitného rázu podporovaním a posilňovaním úcty k ľudským právam a základným slobodám pre všetkých bez rozdielu rasy, pohlavia, jazyka alebo náboženstva.*“

³⁵⁶ Lisabonská zmluva, ktorou sa mení a dopĺňa Zmluva o Európskej únii a Zmluva o založení Európskeho spoločenstva. 2007. Úradný vestník Európskej únie. ISSN 1725-5236. [online]. [cit. 12.9.2021]. Dostupné na: <<https://eur-lex.europa.eu/legal-content/SK/TXT/PDF/?uri=OJ:C:2007:306:FULL&from=SK>>

³⁵⁷ Charta žien. 2010. Európska komisia. Brusel. [online]. [cit. 12.9.2021]. Dostupné na: <<https://eur-lex.europa.eu/legal-content/SK/TXT/PDF/?uri=CELEX:52010DC0078&from=EN>>

³⁵⁸ Akčný plán EÚ pre ľudské práva a demokraciu na roky 2020 – 2024. 2020. Európska komisia. [online]. [cit. 21.1.2022]. Dostupné na: <https://eur-lex.europa.eu/resource.html?uri=cellar:e9112a36-6e95-11ea-b735-01aa75ed71a1.0015.02/DOC_2&format=PDF>

³⁵⁹ Charta OSN. 1945. Organizácia Spojených Národov. [online]. [cit. 12.9.2021]. Dostupné na: <<https://bit.ly/3EaI6mw>>

Dohovor o odstránení všetkých foriem diskriminácie žien³⁶⁰ (CEDAW) z roku 1979 definuje v článku 1 diskrimináciu žien ako „*akékoľvek robenie rozdielu, vyličenie alebo obmedzenie vykonané na základe pohlavia, ktorého dôsledkom alebo cieľom je narušiť alebo zrušiť uznanie, požívanie alebo uplatnenie zo strany žien, bez ohľadu na ich rodinný stav, na základe rovnoprávnosti mužov a žien, ľudských práv a základných slobôd v politickej, hospodárskej, sociálnej, kultúrnej, občianskej alebo inej oblasti.*“

V teoretickej časti práce sa ďalej venujeme dvom teoretickým modelom diskriminácie na trhu práce.

Model preferencií zamestnávateľa (Taste-based model), s ktorým ako prvý prišiel ekonóm Gary Becker (1971)³⁶¹ hovorí o tom, že niektorí pracovníci, zamestnávatelia alebo zákazníci nechcú pracovať alebo prísť do kontaktu s príslušníkmi iných rasových skupín alebo so ženami. Model nevysvetľuje dôvody, prečo tento predsudok existuje, skôr sa jednoducho predpokladá, že existuje „chuť“ alebo preferencia proti ľuďom zo znevýhodnených skupín a že s touto „chuťou“ možno zaobchádzať presne rovnakým spôsobom, akým by ekonómovia analyzovali individuálne preferencie medzi tovarmi a službami. V tomto modeli majú zamestnávatelia „chuť diskriminovať“, čo znamená, že zamestnávanie pracovníkov z menšín má pre nich nižšiu hodnotu. Menšinoví pracovníci teda budú musieť „kompenzovať“ zamestnávateľov tým, že budú pri danej mzde produktívnejší, alebo ekvivalentne akceptujú nižšiu mzdu za rovnakú produktivitu.

Model štatistickej diskriminácie hovorí o tom, ako zamestnávateľ, ktorý nemá úmysel diskriminovať, uplatňuje iné ako najlepšie rozhodovacie pravidlo (napr. platiť podľa produktivity), čo v praxi vedie k diskriminačnému zaobchádzaniu s príslušníkmi dvoch skupín (Balsa, 2001)³⁶². Štatistická diskriminácia sa líši od modelu preferencií zamestnávateľa v tom, že nepredpokladá žiadne predsudky alebo nekalý motív zo strany zamestnávateľov alebo zamestnancov, ale skôr to, že zamestnávatelia používajú priemerné charakteristiky skupín na predpovedanie individuálnych vlastností pracovníkov (Schwab, 1986)³⁶³. Predpokladom modelu je, že firmy majú obmedzené informácie o zručnostiach uchádzačov o zamestnanie. Aby sa minimalizovali riziká a náklady spojené s tréningom, výcvikom a zaškolením,

³⁶⁰ Dohovor o odstránení všetkých foriem diskriminácie žien. 1979. OSN. [online]. [cit. 12.9.2021]. Dostupné na: <https://www.gender.gov.sk/wp-content/uploads/2012/06/CEDAW_1979.pdf>

³⁶¹ Becker, S. Gary. The Economics of Discrimination. Chicago: The University of Chicago Press, 1971. ISBN 978-02-260-4116-2.

³⁶² Balsa, Ana. 2001. Statistical discrimination in health care. Journal of health economics, 20(6), 881-907.

³⁶³ Schwab, J. Stewart. 1986. Is statistical discrimination efficient?. The American Economic Review, 76(1), 228-234.

zamestnávateľia sa môžu rozhodnúť, že sa vyhnú uchádzačom patriacim do skupiny pracovníkov, o ktorých sa v dôsledku určitých priemerných charakteristík predpokladá, že poskytujú menej ako očakávaný pracovný výkon, alebo je pravdepodobnejšie, že vo firme vytvoria iné problémy.

Na ďalších stranách teoretickej časti sa zaoberáme rodovou segregáciou na trhu práce a javmi spojenými s ňou. Podľa Meulders a kol. (2010)³⁶⁴ sa rodová segregácia týka tendencie žien a mužov pracovať v rôznych sektoroch a profesiách. Situácia na trhu práce je však taká, že v jednotlivých profesiách dominuje jedno pohlavie. Pri skúmaní rodových nerovností je dôležitý koncept delby práce, ktorý rozlišuje medzi horizontálnou a vertikálnou rodovou segregáciou. Podľa Hakim (1992)³⁶⁵ existuje horizontálna segregácia v prípade, že ženy a muži pracujú v rôznych typoch profesií. Horizontálna segregácia označuje segregáciu na rovnakej pracovnej úrovni. Vertikálna rodová segregácia predstavuje distribúciu (počet) mužov a žien v určitých pozíciách v rámci jednej kategórie povolání (Barošová, 2009)³⁶⁶.

Jedným z dôsledkov rodovej segregácie je diskriminácia žien pri povyšovaní. S touto témou sa spájajú dva dobre preskúmané pojmy a to „sklenený strop“ a „lepkavá podlaha“ či mnohé ďalšie.

Podľa Dytrt (2014)³⁶⁷ znamená sklenený strop (Glass ceiling) súbor prekážok založených na subjektívnych, štrukturálnych a organizačných príčinách, ktoré bránia ženám ako skupine v ich postupe na stredné a vyššie riadiace pozície. Podľa Cotter a kol. (2001)³⁶⁸ účinky skleneného stropu naznačujú, že rodové znevýhodnenie je na vrchole hierarchie silnejšie ako na nižších úrovniach a že tieto nevýhody sa ešte viac zhoršujú v priebehu kariéry človeka.

Podľa Kee (2006)³⁶⁹ možno „lepkavú podlahu“ vnímať ako opačný scenár ku „sklenenému stropu“, keď sa medzery zväčšujú v spodnej časti rozdelenia miezd. Lepkáva podlaha (Sticky floor) udržuje ženy uväznené v pozíciách s nízkymi mzdami a s malou príležitosťou na rast smerom nahor (Kimmel, 2000)³⁷⁰. Ženy majú veľké problémy so vstupom

³⁶⁴ Meulders, Danièle et al. 2010. *Horizontal and vertical segregation Meta-analysis of gender and science research – Topic report*. Dostupné na: <

http://www.genderportal.eu/sites/default/files/resource_pool/TR1_Segregation.pdf >

³⁶⁵ Hakim, Catherine. 1992. *Explaining trends in occupational segregation: the measurement, causes, and consequences of the sexual division of labour*. European sociological review, 8(2), pp.127-152.

³⁶⁶ Barošová, Margita. 2009. *Rodová segregácia a rodový mzdový rozdiel na trhu práce*. Rokovanie Stálej komisie pre rodovú rovnosť a rovnosť príležitostí. [online]. [cit. 6.10.2021]. str. 2. Dostupné na: <<https://www.ceit.sk/IVPR/images/IVPR/prezentacie/Barosova/Prispevok.pdf>>

³⁶⁷ Dytrt, Zdeněk. *Ženy a management*. Albatros Media a.s. 2014. ISBN 978-80-265-0181-7

³⁶⁸ Cotter, David et al. 2001 *The glass ceiling effect*. Social forces 80(2), 655-681.

³⁶⁹ Kee, J. Hiau. 2006. *Glass ceiling or sticky floor? Exploring the Australian gender pay gap*. Economic Record, 82(259), 408-427.

³⁷⁰ Kimmel, S. Michael. 2000. *The Gendered Society*. Oxford University Press. ISBN 978-01-951-2587-0

na manažérske pozície prvého stupňa v dôsledku toho, že ich kvalifikácia a vzdelanie je prehliadané, a preto sú ich možnosti obmedzené.

Higgins a Regan (2016)³⁷¹ definujú rodový mzdový rozdiel veľmi jednoducho ako ukazovateľ zárobkov žien v porovnaní s mužmi. Mzda má zásadný význam ako hlavný determinant ekonomického blahobytu zamestnaných jednotlivcov. Vypočítava sa jednoducho vydelením priemerného ročného zárobku žien priemerným ročným zárobkom mužov alebo ako medzera príjmov žien v porovnaní s mužmi (Abdel-Raouf a Buhler, 2020)³⁷². Rozdiely v odmeňovaní žien a mužov sú v každej európskej krajine, ale veľkosť rozdielov sa výrazne líši dokonca aj v členských štátoch EÚ, na ktoré sa zdanlivo vzťahujú rovnaké právne zásady rovnosti odmeňovania.

Cieľ práce

Hlavným cieľom dizertačnej práce je preskúmať, vedecky spracovať a kvantifikovať aspekty rodovej segregácie na trhu práce v európskych krajinách s bližším zameraním na Slovenskú republiku. Hlavný dôraz je kladený na kvantifikáciu nefinančných (vertikálna, horizontálna segregácia a indexy) a finančných ukazovateľov (rôzne formy rodových rozdielov v odmeňovaní). Dizertačná práca sa zameriava aj na poskytnutie potenciálnych, praktických odporúčaní na posilnenie rovnosti na trhu práce na základe evaluácie rodovej segregácie, ktorá v súčasnosti existuje v európskych krajinách.

Pre naplnenie hlavného cieľa, reflektujúceho tému dizertačnej práce a pre dosiahnutie výsledkov, sme si stanovili niekoľko čiastkových cieľov. Ako prvý čiastkový cieľ sumarizujeme teoretické prístupy k rodovej segregácii na trhu práce v krajinách EÚ s bližším zameraním na Slovenskú republiku.

Druhý čiastkový cieľ je zameraný na preskúmanie legislatívnej a právnej ochrany rodovej rovnosti na úrovni Slovenskej republiky a Európskej únie. Na národnej a medzinárodnej úrovni existuje veľa zákonov, podľa ktorých musia muži a ženy dostávať rovnakú odmenu za rovnakú prácu.

Prvý aj druhý čiastkový cieľ sú považované za fundamentálnu časť dizertačnej práce a ich cieľom je získať všeobecné poznatky o problematike rodovej segregácie.

Ako tretí čiastkový cieľ sme si zvolili kvantifikáciu vertikálnej a horizontálnej segregácie na úrovni sekcií klasifikácie ekonomických činností NACE Rev. 2 a typov

³⁷¹ Higgins, Melissa. – Regan, Michael. *The Gender Wage Gap*. ABDO. 2016. ISBN 978-16-807-9747-3

³⁷² Abdel-Raouf, Fatma – Buhler, M. Patricia. *The Gender Pay Gap: Understanding the Numbers*. Routledge. 2020. ISBN 978-10-001-9550-7

zamestnaní (ISCO-08) na úrovni skupín. Táto kvantifikácia nám pomáha identifikovať sektory a povolania, v ktorých dominujú muži a ženy.

Štvrtým čiastkovým cieľom je kvantifikovať ukazovatele a indexy rodovej segregácie vyplývajúce z teoretických prístupov k rodovej segregácii. Tieto indexy poskytujú veľmi užitočné informácie o rozsahu rodovej segregácie.

Piaty čiastkový cieľ je zameraný na kvantifikáciu neupraveného rodového mzdového rozdielu v jednotlivých sektoroch a povolaniach na národnej a medzinárodnej úrovni ako aj podľa vekových skupín a úrovni vzdelania.

Šiesty čiastkový cieľ je zameraný na kvantifikáciu upravenej podoby rodového mzdového rozdielu. Tento čiastkový cieľ nám umožňuje identifikovať mieru príspevku každej pozorovateľnej charakteristiky k rodovému mzdovému rozdielu a identifikovať hypotetickú situáciu, čo by sa stalo, keby muži a ženy mali rovnaké pozorovateľné charakteristiky.

Siedmym čiastkovým cieľom je kvantifikovať Oaxaca-Blinder dekompozíciu rodového mzdového rozdielu na vysvetlené a nevysvetlené časti. Táto ekonometrická analýza nám umožňuje vypočítať rôzne výnosy z individuálnych charakteristík a charakteristík trhu práce špecifických pre mužov a ženy. Ukazuje aj nevysvetlenú časť, ktorá čiastočne zodpovedá za diskrimináciu na trhu práce. Túto časť analýzy rozširuje aj Heckman model pre korekciu vzorky.

Ôsmy čiastkový cieľ sa zameriava na návrh odporúčania na podporu rodovej rovnosti na trhu práce v podmienkach Slovenskej republiky.

Aby sme dosiahli náš hlavný výskumný cieľ, stanovili sme nasledujúce hypotézy:

Prvá hypotéza (H1) uvádza, že rodová segregácia je vyššia v sektoroch a povolaniach, ktoré sú považované za typicky „ženské“ ako v tých, ktoré sú typicky „mužské“.

Druhá hypotéza (H2) tvrdí, že rodová segregácia na trhu práce je vyššia v krajinách, ktoré patrili do tzv. „východného bloku“ v porovnaní s krajinami „západu“.

Tretia hypotéza (H3) uvádza, že neupravený rodový mzdový rozdiel je pozitívne korelovaný s mierou účasti žien na trhu práce.

Štvrtá hypotéza (H4) uvádza, že neupravený rodový mzdový rozdiel je pozitívne korelovaný s úrovňou vzdelania.

Piata hypotéza (H5) uvádza, že vzťah medzi neupraveným rodovým mzdovým rozdielom a vekom má konkávny tvar (obrátené U).

Šiesta hypotéza (H6) tvrdí, že rodový mzdový rozdiel je vyšší v sektoroch, v ktorých dominujú ženy, ako v sektoroch, v ktorých dominujú muži.

Siedma hypotéza (H7) uvádza, že rodový mzdový rozdiel je vyšší vo vysokokvalifikovaných povolaniach ako v nízkokvalifikovaných.

Ôsma hypotéza (H8) tvrdí, že individuálne charakteristiky (napr. vek, skúsenosti, vzdelanie atď.) znižujú v priemere rodový mzdový rozdiel vo väčšej miere ako charakteristiky trhu práce.

Deviata hypotéza (H9) uvádza, že osobnostné charakteristiky a charakteristiky trhu práce jednotlivcov (vysvetlená časť) na trhu práce majú väčší vplyv na rodový mzdový rozdiel v porovnaní s inými faktormi (nevysvetlená časť).

Predmetom dizertačnej práce sú trhy práce vo vybraných európskych krajinách. Konkrétne sa venujeme 22 krajinám EÚ (Belgicko, Bulharsko, Česko, Nemecko, Dánsko, Estónsko, Grécko, Španielsko, Fínsko, Francúzsko, Chorvátsko, Maďarsko, Taliansko, Litva, Lotyšsko, Holandsko, Poľsko, Portugalsko, Rumunsko, Švédsko, Slovinsko a Slovensko) a Nórsku a Spojenému kráľovstvu. Cieľom dizertačnej práce je pozrieť sa na aspekty rodovej segregácie na trhu práce. Široký výber krajín nám umožňuje zachytiť tieto aspekty v kontexte európskej úrovne.

Metodika práce a metódy skúmania

Táto dizertačná práca využíva kvantitatívne údaje zo širokého spektra vedeckých zdrojov a kvalitatívny prístup, ktorý je založený na analýze dokumentov. Skúmané materiály pozostávajú z rôznych dokumentov a výskumných štúdií, ktoré boli vykonané a pochádzajú z akademických zdrojov a zdrojov Európskej únie. Pre lepšie pochopenie problému rodovej segregácie na trhu práce práca popisuje rodové indikátory.

Zozbierané údaje použijeme na výpočet jednotlivých ukazovateľov horizontálnej a vertikálnej rodovej segregácie na trhu práce, ktoré vychádzajú z vedeckej literatúry na túto tému. V tejto práci používame tri rôzne indexy na meranie rodovej segregácie:

- Index odlišnosti (ID),
- Moir Shelby-Smith Index (MSS),
- Karmel and MacLachlan Index (KM).

Často používaným ukazovateľom na hodnotenie rozdielov v mzdách medzi mužmi a ženami je rodový mzdový rozdiel. Rozdiel v odmeňovaní žien a mužov je rozdiel medzi hodinovou mzdou, ktorú zarábajú muži a ženy na trhu práce, vyjadrený ako percento mzdy

mužov (Blau and Kahn, 2003)³⁷³. Vo svojej najjednoduchšej forme sa nazýva „neupravený rodový mzdový rozdiel“ a meria sa takto:

$$\text{Rodový mzdový rozdiel} = \frac{\text{Priemerná hodinová mzda mužov} - \text{Priemerná hodinová mzda žien}}{\text{Priemerná hodinová mzda mužov}} * 100$$

Ekonometricky sa dá vypočítať takto:

$$\ln(W_t) = \beta_0 + \beta_1 \text{Gender}_i + \varepsilon_i$$

Kde: W_t je priemerná hodinová mzda, β_1 je odhadovaný koeficient predstavujúci neupravený rodový mzdový rozdiel, Gender_i je umelá premenná, ktorá sa rovná 1 pre ženy a 0 pre mužov a ε_i je chyba modelu. Neupravený rodový mzdový rozdiel sa často používa v literatúre o nerovnostiach na medzinárodné porovnania rozsahu rodovej nerovnosti v jednotlivých krajinách.

Lepšie pochopenie rozdielov medzi mužmi a ženami poskytuje upravený rodový mzdový rozdiel. Upravený rodový mzdový rozdiel zohľadňuje rozdiely v individuálnych charakteristikách (napr. vek, vzdelanie, funkčné obdobie atď.) a charakteristikách trhu práce (napr. povolanie, sektor, veľkosť firmy atď.). Upravený rodový mzdový rozdiel sa vypočíta takto:

$$\ln(W_t) = \beta_0 + \beta_1 \text{Gender}_i + \beta_2 X_i + \varepsilon_i \quad (8)$$

Kde: W_t je priemerná hodinová mzda, β_1 je odhadovaný koeficient predstavujúci neupravený rodový mzdový rozdiel, Gender_i je umelá premenná, ktorá sa rovná 1 pre ženy a 0 pre mužov. β_1 je odhadovaný koeficient predstavujúci výnosnosť individuálnych charakteristík a charakteristík trhu práce, X_i je vektor vysvetľujúcich premenných (individuálne charakteristiky a charakteristiky trhu práce) a ε_i je chyba modelu.

Na vyhodnotenie vplyvov faktorov ovplyvňujúcich rodový mzdový rozdiel z hľadiska veľkosti ich relatívnych príspevkov k celkovej mzdovej disparite aplikujeme Oaxaca-Blinder dekompozíciu. Oaxaca-Blinder dekompozícia je dvojstupňová metóda odhadu. V prvom kroku odhadujeme log-lin model hodinovej mzdy na základe súboru vysvetľujúcich faktorov. Patria sem rôzne individuálne a pracovné faktory, ako je vek, vzdelanie, skúsenosti a povolanie či sektor. Formálne sú regresné rovnice zapísané nasledovne:

$$\ln(W_{i,m}) = \beta_0^m + \sum \beta_1^m X_1^m + \varepsilon_{i,m}$$

$$\ln(W_{i,f}) = \beta_0^f + \sum \beta_1^f X_1^f + \varepsilon_{i,f}$$

³⁷³ Blau, F. D., & Kahn, L. M. (2003). Understanding international differences in the gender pay gap. *Journal of Labor economics*, 21(1), 106-144.

kde $\ln(W_{i;m/f})$ je logaritmus hodinovej mzdy osoby i a $X_1^{m/f}$ je vektor vysvetľujúcich individuálnych a pracovných premenných osoby i . Odhadované koeficienty ($\beta_1^{m/f}$) z rovníc a sú v ďalšom kroku použité na rozloženie rodového rozdielu v priemernej mzde. Rozklad sa uskutočňuje odhadom nasledujúcej rovnice (Oaxaca, 1973; Blinder, 1973):

$$\overline{\ln(W_m)} - \overline{\ln(W_f)} = (\bar{X}^m - \bar{X}^f)' \varphi_1^m + (\varphi_1^m - \varphi_1^f) \bar{X}^f + (\beta_0^m - \beta_0^f)$$

Kde $\ln(W_m)$ a $\ln(W_f)$ sú pozorované priemery log hodinových miezd mužov a žien. \bar{X}^m a \bar{X}^f sú spriemerované osobnostné charakteristiky. φ_1^m a φ_1^f odhadované koeficienty cestovného zo mzdových rovníc. φ_1^m predstavuje vysvetlenú časť rodového mzdového rozdielu. Z hľadiska ekonómie sa to týka časti mzdového rozdielu, ktorý možno pripísať variáciám v pozorovaných výnosoch medzi pohlaviami. Ženské výnosy slúžia ako váhové faktory pre druhú zložku (\bar{X}^f), ktorá je váženým súčtom rodových rozdielov v odhadovaných koeficientoch. Veľmi dôležité je uviesť, že tento prístup nezahŕňa korekciu výberu. Hlavným problémom pri odhadovaní mzdovej rovnice je, že pri regresii miezd na charakteristiku práce pre tých, ktorí sú zamestnaní, nesledujeme celú populáciu. Sledujeme iba zamestnaných. Dôsledkom je, že výsledky odhadov mzdovej regresie trpia skreslením výberu vzorky a pri odhadovaní koeficientov výnosnosti individuálnych charakteristík a charakteristík trhu práce pravdepodobne získame skreslené odhady. Ich interpretácia sa týka iba časti trhu práce, ktorú tvoria zamestnaní. Heckman (1979)³⁷⁴ vyvinul riešenie tohto problému – Selekčný model. Selekčný model počíta s možnosťou, že vstup do pracovnej sily nie je náhodný a že faktory ovplyvňujúce sledované mzdy nie sú úplne nezávislé od toho, či sa jednotlivec rozhodne pracovať alebo nie. Mzdová rovnica a rovnica selekcie sú dve rovnice, ktoré tvoria model. Formálne sa mzdová rovnica zapisuje nasledovne:

$$\ln(W_{i;m}^*) = \beta_0^m + \sum \partial_1^m X_1^m + \varepsilon_{i;m}$$

$$\ln(W_{i;f}^*) = \beta_0^f + \sum \partial_1^f X_1^f + \varepsilon_{i;f}$$

Kde: $W_{i;m/f}^*$ je logaritmus hodinovej mzdy mužov a žien a nesleduje sa u ľudí, ktorí nepracujú (preto *). $\beta_0^{m/f}$ je priesečník. $X_1^{m/f}$ je vektor individuálnych charakteristík a charakteristík trhu práce. $\partial_1^{m/f}$ je vektor koeficientov, ktoré sa majú odhadnúť. $\varepsilon_{i;m/f}$ je chyba modelu.

Výberová rovnica je probit regresia určujúca participáciu pracovnej sily, konkrétne pravdepodobnosť zamestnania. Formálne je výberová rovnica zapísaná takto:

³⁷⁴ Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica: Journal of the econometric society*, 153-161.

$$E_i = Z_i' \psi_m + u_i$$

Kde: E_i sa rovná 1, ak je osoba zamestnaná, a 0, ak nie je. Z_i' zahŕňa premenné v premenných $X_1^{m/f}$ plus, ktoré určujú rozhodnutie zúčastniť sa na trhu práce, ale nie priamo mzdu. ψ_m je vektor koeficientov, ktoré sa majú odhadnúť a u_i je chyba modelu.

Heckmanov postup použitý na odhad neskreslenej mzdovej rovnice je nasledovný:

1. Odhad selekčnej rovnice s maximálnou pravdepodobnosťou, na získanie odhadov ψ_m . Pre každé pozorovanie vo vybranej vzorke vypočítame vyrovnanú hodnotu indexovej funkcie alebo latentnej premennej $Z_i' \psi_m$. Potom vypočítame inverzné Mills ratio ako funkciu

$$Z_i' \psi_m: \rho_i = \frac{\varphi(Z_i' \psi_m)}{\omega(Z_i' \psi_m)}.$$

2. Zahrnieme ρ_i do regresie $\ln(W_{i;m/f})$ na $X_1^{m/f}$, aby sme získali konzistentné odhady $\partial_1^{m/f}$.

Keďže analýza bude zameraná na trhy práce vo viacerých európskych krajinách, bude použitá aj metóda komparácie. Okrem štatistických metód budú v tejto dizertačnej práci vo veľkej miere použité aj logické metódy výskumu. Pomocou metódy abstrakcie vieme získať podstatné informácie z dostupných zdrojov. Na zovšeobecnenie získaných poznatkov slúži metóda induktívneho uvažovania. Metódou syntézy sa na základe získaných informácií o danej problematike definujú vybrané časti. Taktiež využívame metódu deduktívneho uvažovania, ktoré slúži na vyvodenie záverov z analýzy vykonanej v práci a z tvrdení, ktoré z nich vyplývajú.

V tejto práci používame údaje z rôznych európskych zisťovaní vrátane zisťovania štruktúry príjmov (SES), štatistiky Európskej únie o príjmoch a životných podmienkach (EU-SILC) a zisťovania pracovných síl (LFS). Použili sme taktiež údaje z DataBank Svetovej banky.

Výsledky práce

V empirickej časti práce sme sa zamerali na kvantifikáciu vertikálnej a horizontálnej segregácie na trhoch práce ako aj indexom segregácie a rodovému mzdovému rozdielu.

Rozdelenie mužov a žien v rámci celých ekonomík (horizontálna segregácia) podľa krajín naznačuje, že v jednotlivých krajinách existuje výrazná segregácia v rámci sektorov. Na základe toho môžeme sektory rozdeliť do troch skupín. Prvou skupinou sú odvetvia, v ktorých dominujú muži. Sektory A – E sú v porovnaní so ženami vysoko zastúpené mužmi – s viac ako 75 % zastúpením v priemere v každej krajine. Sú aj odvetvia, kde je rozdelenie mužov a žien takmer rovnaké, čo je naša druhá skupina. Do tejto skupiny patria sektory ako Finančné a

poisťovacie činnosti (K), Činnosti v oblasti nehnuteľností (L), Odborné, vedecké a technické činnosti (M), Administratívne a podporné služby (N), Umenie, zábava a rekreácia (R) alebo Verejná správa a obrana (O), pričom posledné menované zastupuje verejný sektor. Tretiu skupinu tvoria sektory, v ktorých dominujú ženy. Patria sem sektory ako Vzdelávanie (P), Zdravotníctvo (Q), Ostatné služby (S) a Činnosti domácností ako zamestnávateľov (T).

Rozdielny pohľad na rodovú segregáciu v rámci ekonomiky zobrazuje rozdelenie mužov a žien podľa sektora a krajiny ako percento z celej ekonomiky. Z tohto pohľadu môžeme identifikovať medzisektorovú segregáciu. Krajiny by sa opäť dali rozdeliť do troch skupín. Aj v tomto prípade možno identifikovať sektory, v ktorých dominujú muži aj ženy. V prvej skupine sa ukázalo, že Priemyselná výroba (C) je sektorom s vysokou prevahou mužov, pričom v priemere viac ako 20 % zamestnaných mužov v ňom pracuje, čo znamená, že je sektorom najviac obsadeným mužmi. Druhú skupinu tvoria sektory, kde je zastúpenie mužov a žien približne rovnaké. Do tejto skupiny patria odvetvia ako Veľkoobchod a maloobchod, oprava motorových vozidiel a motocyklov (G), Činnosti v oblasti nehnuteľností (L), Administratívne a podporné služby (N) alebo Verejná správa a obrana, povinné sociálne zabezpečenie (O). Tretou skupinou je skupina, ktorú môžeme nazvať s prevahou žien. Vzdelávanie (P) sa opäť neprekvapivo ukázalo ako jeden z najviac ženských sektorov. Výsledky ukazujú, že na 1 muža pripadajú v priemere 3 ženy v rezorte školstva.

Zaujímavý pohľad na sektorovú segregáciu medzi krajinami poskytuje pohľad na podiel vysoko segregovaných sektorov na celej ekonomike danej krajiny naprieč všetkými skúmanými krajinami. Vidíme, že krajiny bývalého východného bloku trpia vyššou sektorovou segregáciou ako západné krajiny, konkrétne krajiny Vyšehradskej štvorky (Slovenská republika, Česká republika a Maďarsko) vykazujú oveľa vyššiu segregáciu.

Druhým pohľadom na rodovú segregáciu na trhu práce je vertikálna segregácia. Naše výsledky preukázali, že počet žien v Ozbrojených silách (0) je relatívne nízky, ale pochopiteľný. Hoci v priemere je asi 10 % ozbrojených síl žien. Oveľa zaujímavejšia je skupina Manažérov (100), ktorá priamo hovorí o vertikálnej segregácii. Túto skupinu možno považovať za vysokokvalifikovanú a vysoko vzdelanú skupinu pracovníkov. Vertikálna segregácia je najsilnejšia v Holandsku, kde len 25 % manažérov tvoria ženy. Slovenskú republiku možno označiť za priemernú s 36 %. Ďalšou skupinou označujúcou vertikálnu segregáciu sú Profesionáli (200). Túto skupinu možno považovať za vysokokvalifikovanú a vysoko vzdelanú skupinu pracovníkov. Výsledky ukazujú, že pracovníci v tejto skupine sú rovnomernejšie rozdelení ako Manažéri (100). Vo väčšine krajín sú v tejto skupine viac zastúpené ženy. Ak sa pozrieme na iné skupiny, môžeme vidieť jasný vzorec. Povolania s nižšou intenzitou, ako sú

administratívni pracovníci (400), pracovníci v službách a kvalifikovaní pracovníci (500) alebo základné povolania (900), sú všetky v prospech žien. Je to znak jasnej vertikálnej segregácie, keďže tieto povolania sú väčšinou nízkokvalifikované, čo znamená, že ženy v týchto povolaniach sú zamestnané na nižších hierarchických pozíciách. Existujú tri skupiny povolání, ktoré vykazujú vysokú mužskú dominanciu – kvalifikovaní pracovníci v poľnohospodárstve, lesníctve a rybárstve (600), remeselníci a príbuzní živnostníci (700) a prevádzkovatelia a montážnici strojov a zariadení (800). Všetky zamestnania v týchto skupinách si vyžadujú vysokú fyzickú silu, čo je pre ženy prekážkou pri vstupe do zamestnania.

Rozdelenie zamestnancov v rámci celej ekonomiky krajiny ako percento pracovnej sily každého pohlavia ponúka iný pohľad na vertikálnu segregáciu. Ozbrojené sily podľa očakávania tvoria len asi 1 % mužskej populácie na trhu práce. Čo sa týka manažérov (100), muži tvoria asi 10 % pracovnej sily mužov v porovnaní s 5 % pracovnej sily žien, čo dokazuje o prítomnosti vysokej vertikálnej segregácii v európskych krajinách. Najväčší podiel pracovníkov je zamestnaný v skupine Profesionáli (200), čo znamená vysokú úroveň vzdelania dosiahnutú pracovníkmi v európskych krajinách. Zaujímavé je, že v Dánsku je každá tretia zamestnaná žena v skupine Profesionáli (200), vo Švédsku je toto číslo ešte vyššie. V SR je to 19 % žien, ktoré pracujú na vysokokvalifikovaných a vysokovzdelaných pozíciách, čo je najmenej v krajinách Vyšehradskej skupiny (ČR – 22 %, HU – 22 %, PL – 29 %). Čo sa týka povolání s nižšou požadovanou kvalifikáciou, pomocní úradníci (400), pracovníci v službách a predaji (500), miera zamestnanosti žien je v tejto profesijnej kategórii oveľa vyššia v porovnaní s mužmi. Poľnohospodársky, lesnícky a rybársky priemysel (600) nepatrí medzi najobľúbenejšie odvetvia ani u mužov, ani u žien. Presný opak by sa dal konštatovať o pracovníkoch remesiel a živností (700) v prípade mužov. Česká republika a Maďarsko sú krajiny s najvyššou zamestnanosťou mužov v týchto povolaniach, obe tam majú zamestnaných 25 % mužov. Nezaostáva ani Slovenská republika, kde tieto práce vykonáva 24 % mužov.

Ešte lepší pohľad na vertikálnu segregáciu ukazuje podiel žien vo vysokokvalifikovaných povolaniach. Pozorujeme, že južné krajiny (Stredomorie) majú nižší podiel žien vo vysokokvalifikovaných povolaniach – Španielsko s najnižším podielom 38 %. Podobne nižšie podiely majú krajiny bývalého východného bloku okrem pobaltských krajín. Vertikálna segregácia je preto stále evidentná v krajinách východného bloku, kde väčšina zamestnaných žien pracuje v nízko alebo stredne kvalifikovaných povolaniach.

Ďalšia analýza sa zameriava na dynamiku rodovej segregácie prostredníctvom kvantifikácie indexov rodovej segregácie za viaceré časové obdobia. Výsledky Indexu odlišnosti (NACE kalkulácia) naznačujú, že je počas celého sledovaného obdobia pomerne

stabilný. To znamená, že napriek realizovaným politikám na predchádzanie rodovej segregácii na trhu práce pretrváva. Krajinou s najnižšou rodovou segregáciou je Grécko (21,46 % v roku 2020) s klesajúcim trendom. Naopak, Lotyšsko vykazuje takmer dvojnásobnú mieru segregácie, pričom takmer 41 % zamestnancov muselo zmeniť zamestnanie, aby sa dosiahol rovnosť pohlaví na trhu práce a zvýšil sa. Nepříjemné výsledky vykazuje, žiaľ, aj Slovenská republika ako druhý najviac segregovaný trh práce – hodnota ID = 39,38 %. Podľa výsledkov MSS a Karmel-Lachlan Indexu je rodová segregácia najvyššia v SR, a to okolo 43 %, aj keď časom mierne klesá. Ďalšia časť analýzy je zameraná na výpočet a analýzu vertikálnej rodovej segregácie – medzi povolaniami (ISCO kalkulácia). Výsledky ukazujú, že medzi krajinami je veľký rozdiel. Rozdiel medzi najvyššie a najnižšie segregovanými krajinami je takmer 13 percentuálnych bodov s priemernou hodnotou indexu 32 %. Profesijná segregácia je najsilnejšia v Estónsku, kde by 36,83 % zamestnaných pracovníkov muselo zmeniť svoje zamestnanie, aby sa segregácia odstránila. Trendy však ukazujú, že segregácia klesá. Ak porovnáme hodnoty indexov pre horizontálnu segregáciu s hodnotami vertikálnej segregácie, vidíme, že vertikálna segregácia vykazuje nižšie hodnoty. Z toho vyplýva, že na úplné odstránenie rodovej segregácie je potrebné, aby viac zamestnaných ľudí zmenilo skôr sektor ako povolanie, poprípade postup v organizačnej hierarchii.

Posledná časť analýzy sa zameriava na finančnú stránku a to konkrétne na rodový mzdový rozdiel a jeho determinanty. V prípade neupravenej formy rodového mzdového rozdielu výsledky ukazujú veľké rozdiely medzi krajinami, od menej ako 1 % v Rumunsku po takmer 20 % v Nemecku pre SES dataset. Rozdiel je ešte väčší v prípade súboru údajov EU-SILC, ktorý sa pohybuje od 3,7 % v Grécku po 24,6 % v Českej republike. Zdôvodňujeme to skutočnosťou, že súbor údajov prieskumu SES nezahŕňa spoločnosti s menej ako 10 zamestnancami, zatiaľ čo EU-SILC áno. Tieto výsledky ukazujú, že neupravený rodový mzdový rozdiel je pomerne komplexným ukazovateľom, ale nie je dostatočne dobrý na vysvetlenie rozdielu v mzdách, ktorý sa pripisuje rodu.

Miera zamestnanosti žien na trhu práce je veľmi dôležitým determinantom sektorovej a profesijnej segregácie. Rodový mzdový rozdiel a sektorová alebo profesijná rodová segregácia sú dva veľmi dobre zdokumentované vzájomne prepojené javy. V našej analýze skúmame vzťah neupraveného rodového mzdového rozdielu a miery zamestnanosti žien pre vybrané európske krajiny. Výsledky naznačujú pozitívnu koreláciu a teda, že viac žien na trhu práce je spojené s vyššími rozdielmi v odmeňovaní žien a mužov pričom sa nám podarilo zaradiť krajiny do štyroch skupín:

- krajiny s nízkou mierou účasti žien na trhu práce a nízkym rodovým mzdovým rozdielom – väčšinou južné (stredomorské) krajiny ako Taliansko, Grécko, Španielsko alebo Rumunsko,
- krajiny s nízkou mierou účasti žien na trhu práce a vysokým rodovým mzdovým rozdielom – Chorvátsko, Francúzsko, Lotyšsko alebo Litva,
- krajiny s vysokou mierou účasti žien na trhu práce a nízkym rodovým mzdovým rozdielom – Holandsko, Maďarsko alebo Švédsko,
- krajiny s vysokou mierou účasti žien na trhu práce a vysokým rodovým mzdovým rozdielom – Česká republika, Slovensko, Nemecko, Dánsko alebo Estónsko.

Naše výsledky preukázali, že vzťah medzi nízkokvalifikovanými a vysokokvalifikovanými povolaniami a rodovým mzdovým rozdielom potvrdzuje teóriu z literatúry o korelácii požiadaviek na zručnosti s rodovým mzdovým rozdielom. V oboch prípadoch povolanie vysvetľuje približne 20 % rozdielov v odmeňovaní žien a mužov, čo je pomerne vysoký podiel. Ďalším možným vysvetlením pozitívnej korelácie medzi rozdielmi v odmeňovaní žien a mužov a zamestnanosťou žien s vysokou kvalifikáciou je efekt skleneného stropu. Napriek tomu, že ženy sú vysoko vzdelané (v skutočnosti ukončí terciárne vzdelanie viac žien ako mužov), nie sú povýšené na vyššie pozície, ale stále sú považované za odborníčky.

Jednou z hlavných príčin rodových rozdielov v odmeňovaní a rodovej segregácie na trhu práce sú rozdiely v dosiahnutom vzdelaní mužov a žien. Vo všeobecnosti platí, že muži aj ženy zarábajú viac peňazí, čím viac rokov vzdelania majú. Výsledky naznačujú, že disparita má stúpajúcu tendenciu, pričom nižšia vzdelanostná úroveň je spojená s nižším rozdielom v odmeňovaní žien a mužov v prospech mužov. Aby sme boli konkrétnejší, ženy s nízkym vzdelaním trpia mzdovým znevýhodnením v tvare U. Údaje za Slovenskú republiku ukazujú zaujímavú situáciu v terciárnom vzdelaní. Mzdový rozdiel na terciárnej úrovni ISCED 5-6 (Bc.) vykazuje o 6-7 percentuálnych bodov nižšiu hodnotu ako na sekundárnej a terciárnej úrovni ISCED 7-8 (MSc. / PhD.). To znamená, že ženy majú tendenciu ukončiť štúdium po 1. stupni terciárneho vzdelávania a radšej vstúpiť na trh práce ako pokračovať v štúdiu na ďalšom stupni. Stále však trpia pomerne vysokou segregáciou so zárobkami v priemere o 14 % nižšími ako muži.

Dôležitým faktorom určujúcim rodový mzdový rozdiel je vek. Zárobky mužov aj žien majú tendenciu stúpať s vekom. Rast miezd však nie je u oboch pohlaví rovnaký. Rozdiely v odmeňovaní medzi ženami a mužmi sa s pribúdajúcimi rokmi zväčšujú a rozdiely medzi staršími a mladšími pracovníkmi sú oveľa vyššie. Rozdiel je menší u mladších vekových

skupín, najširší u žien po päťdesiatke, potom sa opäť zužuje a ukazuje obrátený tvar písmena U. Oba súbory údajov vykazovali podobné trendy, údaje EU-SILC však s nižšími hodnotami. Ženy po skončení strednej školy bývajú zamestnané v povolaniach s vyššími mzdami ako muži. Avšak prvé roky praxe alebo terciárneho vzdelania majú vyššiu návratnosť u mužov, čím sa rodový rozdiel v odmeňovaní mení v ich prospech a v ďalších vekových štádiách sa ešte viac prehĺbuje. Okrem toho ženy často prechádzajú do zamestnania na čiastočný úväzok vo veku okolo 30 rokov, aby si založili rodinu a starali sa o deti, zatiaľ čo muži zvyčajne zvyšujú svoju ponuku práce tým, že pracujú viac hodín.

Sektorová segregácia má tiež významný vplyv na rodový mzdový rozdiel. Ženy a muži často pracujú v odlišných odvetviach, ktoré sú nerovnomerne ohodnotené, čo má vplyv na rodovú mzdovú nerovnosť. Iba dva sektory vykazovali rozdiely v odmeňovaní žien a mužov v prospech žien (Baníctvo a ťažba a Doprava a skladovanie), avšak v týchto odvetviach silne dominujú muži, čo znamená, že počet žien v týchto odvetviach je veľmi nízky. Ženy v týchto odvetviach bývajú zamestnané najmä ako administratívne pracovníčky, ktoré majú v priemere vyššie mzdy ako muži pracujúci na nižších pozíciách. Ako sme však uviedli, priemerná mzda žien je posunutá smerom nahor z dôvodu nízkeho počtu žien v priemysle. To isté platí pre sektor stavebníctva, aj keď rozdiel v odmeňovaní žien a mužov uprednostňuje mužov. Vo všetkých ostatných sektoroch je rozdiel v odmeňovaní žien a mužov naklonený na stranu mužov, čo naznačuje nielen silnú sektorovú, ale aj profesijnú segregáciu. Odvetvia, v ktorých ženy tvoria najväčšiu časť pracovnej sily, tiež patria medzi horšie platené.

Pohľad na rozdiely v odmeňovaní žien a mužov podľa povolání ukazuje, že vo všetkých povolaniach muži zarábajú viac ako ženy. Rozdiely v odmeňovaní medzi ženami a mužmi sú pozitívne korelované s požiadavkami na úroveň zručností povolání, keďže môžeme vidieť, že manažéri a odborníci vykazujú veľmi vysoké rozdiely v mzdách mužov a žien. To znamená, že skutočne existuje efekt skleneného stropu, ktorý ženám bráni v postupe na vyššie hierarchické pozície. Najnižšie rozdiely v odmeňovaní žien a mužov (9,5 %, resp. 3 %) vykazujú povolania so strednými požiadavkami na kvalifikáciu – pomocní administratívni pracovníci, pracovníci v službách a predaji. Povolania s nízkymi požiadavkami na kvalifikáciu v kategórii povolání Elementárne povolania vykazujú malý rozdiel v mzdách.

Ako už bolo uvedené, neupravený rodový mzdový rozdiel je relatívne komplexným ukazovateľom vhodným na medzinárodné porovnania, avšak nekontroluje rozdiely v individuálnych charakteristikách alebo charakteristikách trhu práce. Aby sme mohli zohľadniť tieto charakteristiky, musíme „upraviť“ rodový mzdový rozdiel. Odhadli sme 5 rôznych modelov kontrolujúcich rôzne pozorovateľné charakteristiky. Prvý model ukazuje neupravený

rodový mzdový rozdiel s hodnotami v rozmedzí od 8,9 % do 12,6 % v závislosti od použitého súboru údajov. Po kontrole osobnostných charakteristík sa rozdiely v odmeňovaní žien a mužov takmer zdvojnásobili v súbore údajov SES a viac ako zdvojnásobili v súbore údajov EU-SILC. To znamená, že zamestnané ženy majú lepšie charakteristiky potrebné na trhu práce ako muži, avšak ich mzdy sú výrazne nižšie. Veľmi podobný, ale o niečo nižší odhad je získaný, ak upravíme rozdiely v odmeňovaní žien a mužov o charakteristiky trhu práce (19,2 % a 19,8 %). To znamená, že sektorová a profesijná segregácia je na trhoch práce v skúmaných krajinách silná. Ženy majú tendenciu byť zamestnané v ženských sektoroch a povolaniach, ktoré majú nižšie mzdy. Úprava rodového mzdového rozdielu o individuálne charakteristiky a charakteristiky trhu práce zvyšuje rozsah rozdielov (23,4 %). To naznačuje, že existuje určitá súhra medzi pozorovateľnými charakteristikami, čo potvrdzuje predpoklad sektorovej a profesijnej segregácie pravdepodobne podľa vzdelania. Zahrnutie umelých premenných pre každú krajinu výrazne znižuje rozdiely v odmeňovaní (11,2 %, resp. 14,2 %), z čoho vyplýva, že medzi skúmanými krajinami existuje vysoká heterogenita.

Rovnakých päť modelov sme odhadli aj s datasetom EU-SILC upraveným o problém selekcie. Využili sme na to metódu Heckmanovej korekcie. Výsledky ukazujú, že rodový mzdový rozdiel je vo všetkých špecifikáciách modelu vyšší. Neupravený rodový mzdový rozdiel vzrástol z 8,9 % na 11 %, ale ešte vyšší nárast je zaznamenaný v prípade kontroly osobných charakteristík – z 19,9 % na 23,7 %. To znamená, že ak by sa nezamestnané ženy zamestnali, rodový rozdiel v odmeňovaní by bol ešte vyšší, čo naznačuje, že nezamestnané ženy majú lepšie osobné charakteristiky ako nezamestnaní muži. Úprava rozdielov v odmeňovaní žien a mužov len pre charakteristiky trhu práce ukazuje pretrvávajúci rozdiel na úrovni približne 19 %, čo naznačuje, že aj keby sa ženy zamestnali, obsadili by pozície s nižšími mzdami. Zahrnutie osobných charakteristík a charakteristík trhu práce ukazuje, že medzi oboma typmi charakteristík skutočne existuje súhra. Rodový rozdiel v odmeňovaní vzrástol na 22,8 %, čo ukazuje, že vzdelanie a skúsenosti sú prepojené s pozíciami, ktoré ženy zvyčajne zastávajú, čo znamená, že ženy si vyberajú svoje povolanie podľa oblasti vzdelania, ktoré ukončili, alebo naopak. Po zahrnutí umelých premenných pre každú krajinu, ktoré kontrolujú nepozorovanú heterogenitu, sa rozdiely v odmeňovaní žien a mužov znížili na 15,2 %, ale stále sú veľmi vysoké v prospech mužov.

Pri pohľade na jednotlivé krajiny môžeme identifikovať tri skupiny krajín:

- krajiny s vyšším upraveným rodovým mzdovým rozdielom ako neupraveným rodovým mzdovým rozdielom – Chorvátsko, Poľsko, Portugalsko, Rumunsko či Slovinsko,

- krajiny s podobnými hodnotami upraveného rodového mzdového rozdielu a neupraveného rodového mzdového rozdielu – Estónsko, Lotyšsko, Slovensko či Španielsko,
- krajiny s nižším upraveným rodovým mzdovým rozdielom ako neupravenými rodovým mzdovým rozdielom – Belgicko, Švédsko, Dánsko či Nemecko.

Posledným krokom analýzy rodového mzdového rozdielu je využitie Oaxaca-Blinder dekompozície bez aj s Heckmanovou korekciou vzorky. Výsledky ukazujú, že priemer logaritmických miezd u mužov je 2,549 a u žien 2,424, čo znamená mzdový rozdiel 12,6 % pre vzorku SES. Podobné výsledky sú vypočítané pre súbor údajov EU-SILC, čo vedie k mzdovému rozdielu 9 %. Dôležitým, ale neprijemným zistením je, že vysvetlená časť rodových rozdielov v odmeňovaní je výrazne nižšia ako nevysvetlená časť, čo znamená, že pozorovateľné charakteristiky vysvetľujú veľmi malý podiel rodových rozdielov v odmeňovaní. Okrem toho vo vzorke SES má vysvetlená časť kladnú hodnotu, čo znamená, že ak by muži a ženy mali rovnaké charakteristiky, rozdiel v odmeňovaní žien a mužov by bol nižší asi o 1,3 %. Zvyšok zostáva nevysvetlený (11,2 %). Čiastočne to môžeme pripísať diskriminácii a iným nepozorovaným charakteristikám. Vo vzorke EU-SILC sa nevysvetlená časť zmenila na negatívnu, čo naznačuje, že ženy majú v priemere lepšie vlastnosti. Ak by mali muži a ženy tieto vlastnosti rovnaké, rozdiel v odmeňovaní bol vyšší o približne 4,8 %, výsledok, ktorý potvrdzuje naše predchádzajúce výsledky. Nevysvetlená časť je podobná vzorke SES, ale v skutočnosti je vyššia ako celkový mzdový rozdiel. To znamená, že okrem kontrolovaných pozorovateľných charakteristík existujú aj iné dôležité faktory, ktoré nekontrolujeme.

Rovnako ako v predchádzajúcej časti analýzy sme použili výberovú korigovanú vzorku, ktorá zahŕňa nezamestnaných ľudí na trhu práce. Mzdový rozdiel vzrástol na 14,1 %. Veľkosť vysvetlenej časti (dotácie) sa tiež zvýšila, ale len mierne na -0,051, čo znamená, že ak by muži a ženy mali rovnaké vlastnosti a nezamestnaní ľudia by si našli prácu, rodový mzdový rozdiel by sa zvýšil o približne 5,1 %. Nezamestnaní ľudia preto môžu mať veľmi podobné alebo lepšie pozorovateľné charakteristiky ako ľudia na trhu práce, ale dochádza k sektorovej a profesijnej segregácii. Nevysvetlená časť (koeficienty) tiež stúpila na 0,158.

Keďže Heckmanova korigovaná metóda je možná len so súborom údajov EU-SILC, odteraz pokračujeme v používaní iba tohto a porovnávame výsledky pre výber s a bez korekcie vzoriek, preto sa počet krajín zníži na 20. Analýza dekompozície rodového mzdového rozdielu na vysvetlené a nevysvetlené časti v jednotlivých krajinách ukazuje, že rozdelenie sa medzi krajinami výrazne líši. Veľmi zaujímavé je, že v každej krajine je vysvetlená časť negatívna,

okrem Holandska, a v každej krajine je nevysvetlená časť pozitívna. To znamená, že priemerné ženy v týchto krajinách majú lepšie pozorovateľné charakteristiky ako muži, najmä majú lepšie vzdelanie, ale existujú aj iné dôležité faktory, ktoré ovplyvňujú mzdový rozdiel. Preto len nevysvetlená časť môže vysvetliť, prečo ženy zarábajú v priemere menej ako muži.

Ešte zaujímavejší pohľad na dekompozíciu rodových mzdových rozdielov poskytuje rozklad vysvetlenej a nevysvetlenej časti rodového mzdového rozdielu. Najprv sa pozrieme na vysvetlené časti a faktory, ktoré k nim prispievajú. Rozdiely v odmeňovaní žien a mužov sú do značnej miery spôsobené nadmerným zastúpením žien v odvetviach s nízkymi platmi a následne nedostatočným zastúpením žien v odvetviach s vysokou úrovňou odmeňovania. Ďalším efektom, ktorý je pomerne homogénny vo všetkých skúmaných krajinách, je typ zmluvy. Predpokladané mzdy sú pri práci na dočasnej pozícii nižšie takmer vo všetkých krajinách. Pomerne homogénny efekt má aj vekové rozloženie či vzdelanie. Skúsenosti, na rozdiel od veku vykazujú heterogénny efekt, hoci ich rozsah je oveľa nižší. V Grécku, skúsenosti prehlbujú mzdové rozdiely o približne 3,1 %, čo znamená, že ženy majú tendenciu meniť svoje zamestnanie častejšie ako muži a majú tendenciu trpieť častejšie prerušeniami účasti na trhu práce. Účinok je tiež vysoký v Španielsku (2,0 %) alebo Chorvátsku (0,8 %), čo naznačuje, že tento trend je charakteristický pre krajiny južného Stredomoria. Na druhej strane pobaltské a severské krajiny vykazujú negatívny vplyv skúseností na rozdiely v odmeňovaní žien a mužov. Veľkosť firmy je tiež jedným z determinantov rodového mzdového rozdielu. Veľkosť vplyvu je však v porovnaní s inými determinantmi nízka. Veľmi dôležitým faktorom pri znižovaní rodového mzdového rozdielu je pracovný čas. Poslednou charakteristikou, ktorú analyzujeme, je efekt povolania (ISCO). Veľmi zaujímavé je, že efekt je homogénny a negatívny naprieč celou skúmanou skupinou krajín. V prípade aplikovania dekompozičnej metódy na vzorku upravenú Heckmanovou metódou sme dosiahli porovnateľné výsledky s mierne vyššou magnitúdou.

Ohľadom nevysvetlenej časti, kladné hodnoty koeficientu znamenajú, že muži sú platení viac ako ženy za to, že majú rovnakú relevantnú vlastnosť, čím sa zvyšujú rozdiely v odmeňovaní medzi ženami a mužmi. Naopak, záporné hodnoty znamenajú, že ženy sú za určitú charakteristiku platené viac ako muži, čím sa znižuje rozdiel v odmeňovaní žien a mužov. Konštanta sa ukazuje ako najväčší prispievateľ k nevysvetliteľnej časti rodového mzdového rozdielu. Konštanta zahŕňa štatisticky nepozorované charakteristiky, ktoré prispievajú k rozdielom v odmeňovaní žien a mužov. Zohľadňuje tiež nedokonalosť meraných pozorovateľných charakteristík uvedených vyššie. Priemerná hodnota konštanty je 34,4 %. Jedným z hlavných prispievateľov k nevysvetlenej časti je sektorové rozdelenie pracovníkov.

Koeficienty sú záporné, čo znamená, že v odvetviach, v ktorých dominujú muži, existuje v rámci sektora mzdová prémie pre ženy. Významnú časť nevysvetliteľnej časti rodových rozdielov v odmeňovaní tvoria efekty vekového rozdelenia, ktoré v celkovej vzorke znižujú rodový mzdový rozdiel o približne 17,4 %. Variabilita je však dosť vysoká a pohybuje sa od -84,4 % v Slovinsku po 29,5 % vo Francúzsku. Heterogénny efekt sa prejavuje aj pre pracovný čas. V 11 skúmaných krajinách je efekt pozitívny, čo znamená, že muži majú výhodu oproti ženám v odpracovaných hodinách. Naopak, v 9 krajinách výsledky ukazujú výhodu pre ženy v rozsahu od -1,5 % v Grécku do -43,9 % v Slovinsku. Pri skúsenostiach sa ukazuje celkom opačný efekt. V prípade aplikovania dekompozičnej metódy na vzorku upravenú Heckmanovou metódou sme dosiahli porovnateľné výsledky s mierne vyššou magnitúdou.

Záver

V dnešnej spoločnosti je rodová rovnosť základným atribútom lepšieho fungovania spoločnosti a rešpektovania základných ľudských práv. Krajina, ktorá chce byť považovaná za demokratickú, musí presadzovať rovnaké práva pre všetkých, bez ohľadu na vrodené vlastnosti jednotlivca. V záujme dosiahnutia rodovej rovnosti medzi mužmi a ženami na trhu práce navrhujeme niekoľko odporúčaní:

- poskytovať zamestnancom rôzne formy dovolenky a flexibilné pracovné podmienky v záujme zlepšenia vzťahu medzi pracovným a súkromným životom,
- rozšírenie poskytovania služieb pre deti - jasle, škôlky, prípadne školy s vhodným vybavením v tom istom meste,
- zlepšiť systém striedavej rodičovskej dovolenky,
- výraznejšie začlenenie žien na trh práce a do menej feminizovaných odvetví, do podnikateľskej, ale aj politickej sféry,
- rodové kvóty,
- poskytovať rekvalifikačné a vzdelávacie programy zamerané na ženy, ktoré sa vracajú po materskej a rodičovskej dovolenke,
- implementácia koncepcie uplatňovania rodového hľadiska,
- povinnosť zamestnávateľov hlásiť, že všetkým svojim zamestnancom poskytujú rovnakú mzdu za rovnakú prácu.

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