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ANALYSIS OF GENDER WAGE GAP IN LITHUANIA

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ABSTRACT. This study aims to discern and quantify the personal and labour market characteristics, which are most relevant to the persistence of a gender wage gap in Lithuania. The Oaxaca-Blinder model, employed in this study, revealed the largest explained gender wage gap to be attributable to the characteristics of occupation and industry. These contribute to the gap mainly by the horizontal and vertical segregation effects, as women are more concentrated in typically 'feminine' jobs, which pay less. The educational attainment of women is slightly higher than that of men, and this reduces the gender wage gap in the Lithuanian labour market. The analysis also revealed that work in the public sector entails an increase in the gap despite greater wage transparency and a more regulated remuneration mechanism. This is due to the 'glass ceiling' effect or the pervasive resistance to the efforts of female workers to reach the top rank positions, which we find to be stronger in the public sector.

Introduction

The gender pay gap is a problem that is still relevant in both the most advanced and developing countries of the world. According to the ILO, based on the latest data, the global gender pay gap varies between 15.6% and 22% in 73 countries in different regions and levels of income and development.

This fact shows the imbalance in the labour market where the conditions for women to earn equal pay with men are potentially more difficult. Direct discrimination, where women are paid less for the same type of work, is much less common these days, especially in developed democratic countries where anti-discrimination laws are in place. Notwithstanding the laws adopted to promote the human right to equal compensation for work of equal value, this principle may be breached via more disguised indirect discrimination. Indirect discrimination is a situation where the employer encourages employees to work overtime, providing additional bonuses or promotions, whereas mothers of young children who cannot work overtime are not treated as favourably by the employer as other employees. Failing to provide working

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conditions favourable to all groups of employees gives an advantage to certain groups over others, usually over minority groups.

However, the problem of the pay gap is relevant not only because it creates potentially unequal opportunities for individuals. It impairs the country's macroeconomic situation, because through failure to provide equal opportunities for women to earn equal wages with men and to participate in the labour market, a portion of the GDP that women could have created is lost.

Given that the labour market is affected by many factors, and women's choices are driven not only by their preferences, but also by their environment, acquired labour market characteristics, social norms, and the political climate, it is important to continue looking for reasons that cause the pay gap. As long as this phenomenon exists and society seeks answers as to what has the greatest impact on the pay gap – women's choices, discrimination in the labour market, the inherent characteristics of women and men, or something else – research into the pay gap will be necessary and useful.

This study employs the Oaxaca-Blinder decomposition and aims to discern and quantify the personal and labour market characteristics, which are most relevant to the persistence of the gender wage gap in Lithuania.

The structure of the paper is the following. Section 1 presents the human capital theory. Section 2 discusses the factors contributing to the pay gap. Section 3 explains the suggested research methodology and data, while Section 4 is dedicated to the results of the decomposition analysis.

1. Human capital theory

Most studies on the gender pay gap are based on one of the most widely applied theories, the human capital theory. OECD (1999) defines human capital as knowledge, skills, competences and other attributes embodied in individuals, and which are relevant to economic activity. This definition was subsequently extended recognising that human capital is not only the foundation of economic, but also of personal well-being. The definition provided in 2001 therefore states that human capital is knowledge, skills, competences and qualities and other attributes embodied in individuals, which facilitate the development of personal, social and economic well-being (OECD (2001)).

The roots for modern human capital theory date back to Adam Smith and his theory of pay differences between employees with different education, skills and experience published in 1776. Modern human capital literature focuses the most on education and its significance on returns in the labour market. Education positively contributes to economic growth. Returns to education can be private (income), social (government taxes from income) and related to labour productivity. (Blundell et al. ((2001)). Investment in education yields productivity growth, and in some cases higher social rates of return than investment in physical capital (Nordic Council of Ministers (2011)).

Human capital factors influence the earnings of individuals; there is a proven positive correlation between learning and earnings (Ishikawa & Ryan (2002)). Human capital is amassed during individual's lifetime in three main stages: during school years, after school years during on-the-job training, which is provided by place of employment, and during off-the-job training, by institutions seeking profit. (Lynch, 1991, Kobylińska & Lavios, 2020). As is true for all investments, investments in education have their rate of return, measured by comparing the costs incurred (Becker (1992)) and profit generated, i.e. better employment opportunities,

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higher earnings and increased productivity for employers (Fleischhauer, 2007; Dmytrów & Bieszk-Stolorz, 2021).

According to Kanazawa (2005), gender pay gap is caused by the difference in men and women's human capital aggregation, segregation of occupations and discrimination against women. Winter-Ebmer & Zweimüller (1992) discerned several causes for occupational segregation of genders: personal preferences, crowding and human capital theory (Fleischhauer, 2007).

Human capital theory has been used to explain occupational segregation through the prism of family-career decisions. The current distribution of human capital within the family determines common decisions for the allocation of time between the family and the labour market, and the future allocation of time influences investment decisions in human capital. Incentives to raise human capital vary according to the life cycle and are proportional to the time one expects to work over one's lifetime. Fertility decisions is an especially important factor (Danková et al., 2022). Women choose occupations to minimize losses associated with intermittent participation in the labour market due to childcare. Chosen occupations have the lowest penalty for dropping out of work, biggest initial pay, and least variance of pay over the life cycle. This theory suggests that women rely on the assumption that there is a traditional distribution of work between the genders in the family, i.e. women have greater responsibility in domestic chores and childcare, which leads to shorter working hours and career breaks (Polachek, 2004).

Blau & Kahn (2017) performed an analysis of wage gap trends in the US in 1980–2010 and identified a trend toward a narrowing of the gender pay gap. The assumption of the human capital theory that a person's tendency to invest in education is directly proportional to the time one expects to work over one's lifetime explains why the increasing participation of women in the labour market should lead to greater investment in their human capital and thus reduction of the gender pay gap. The evidence confirms the theory – in 1980–2001 the income of women in the US, compared to men, grew because women became more actively involved in the labour market. The married women's labour market participation increased to 61.4% in 2001. This was the biggest leap and the fundamental trend in the US labour market in the 20th century. In the meantime, men's labour market participation decreased from 84.3% to 75.1% over the same period. These trends reduced the gender pay gap: in 1890, women's pay was slightly more than 30% of men's pay, and in 2001, this proportion stood at 80%.

Based on the theory discussed in this section, human capital is indeed one of the causes for gender pay gap. This means that difference in knowledge, skills, competences and qualities between men and women determine part of the wage difference between the genders. Male and female employees have dissimilar education, work experience, occupations, as well as divergent priorities for family and career. Skills and personal qualities are also very relevant: negotiating skills, confidence, preference for rivalry in the workplace, even presumptions for wages are factors, which can affect and widen the gender pay gap. However, even after accounting for human capital factors, a significant remainder of the gender pay gap remains unexplained; this balance is attributable to discrimination and other effects. (Fleischhauer, 2007; Congregado et al., 2021).

2. Factors contributing to the pay gap

Simon (2012) reveals that the difference in gender distribution by economic activity (industry) is the most important factor in the pay gap in nine European countries: Italy, Spain, the Netherlands, Norway, the Czech Republic, Latvia, Slovakia and Lithuania. The study uses

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Juhn's decomposition method to establish that this characteristic accounts for 42.1% of the impact on the gender pay gap. According to Boll & Lagemann (2018), who use the Oaxaca-Blinder decompression analysis, gender segregation by economic activity accounts for the highest (4.2%) pay gap between men and women at the European level. Similar results were obtained in the study by Leythienne & Ronkowski (2018), according to which economic activities determine the major portion (32%) of the wage gap.

According to Leythienne & Ronkowski (2018), occupational segregation, unlike segregation by economic activity, reduces the pay gap at the European level Androniceanu & Georgescu, 2022; Androniceanu et al., 2022a). The distribution of women and men in different occupations accounts for -3% of the EU's pay gap, which means that segregation by occupations works in favour of women. In their study Boll & Lagemann (2018) conclude that the distribution of women and men between occupations accounts only for -0.2% of the wage gap. Meanwhile, the analysis by country reveals very different trends. For example, in the UK such distribution increases the gap by 4.46%, while in Italy it reduces the gap by 7.28%.

Despite positive results in Europe (Matuszewska-Janica & Witkowska, 2021; Androniceanu et al., 2022b), occupational gender segregation remains a problem in other countries, for example in the USA. In this country, occupational segregation has the same characteristics as segregation by economic sector, with a higher proportion of women acquiring "female" occupations and men acquiring "male" occupations. In most "male" and "female" occupations in the USA, the wage gap is in favour of men, similarly to the gender segregation by economic activities. According to the Institute for Women's Policy Research (IWPR (2018)), only in two occupations out of 107, women receive a higher average wage than men do. Thus, there is also a pattern for women to earn lower average wages even in more women-dominated occupations, and for men to earn higher average wages in the vast majority of occupations.

The uneven distribution of men and women between different economic activities (observed in aforementioned studies) is called horizontal segregation. Horizontal segregation is a situation where a particular group of persons is underrepresented in occupations or economic activities. One of horizontal segregation is Bergmann's crowding hypothesis (1974), which states that due to discrimination women are forced to choose among a limited amount of professions, and as women's labour supply greatly exceeds men's in those professions (overcrowding effect), the price for their labour (pay) is lower (Blau & Kahn (2000)). Another explanation is women's preferences, often influenced by fertility decisions, as explained by human capital theory.

Part of the gender pay gap is also due to vertical segregation. Vertical segregation is a term that describes the under (over) representation of a clearly identifiable group of workers in occupations or economic sectors at the top of the hierarchy, independently of the type or nature of activity. It is also termed hierarchical segregation (Bettio & Verashchagina (2009)) or the "glass ceiling". The term "glass ceiling" emphasizes that such inequality among groups of workers occurs due to identifiable or undefined barriers that lead to a minority of certain employees in power and decision positions in organizations and companies, as well as in associations and trade unions. Žiogelytė (2012) deduced that in Lithuania, the gender pay gap is less pronounced within economic activities strongly dominated by women, due to womens' initiatives, and in male-majority activities, internal gender pay gap is more substantial. This is true for the field of education (over 70% women), as the pay gap was always smaller, in some years even negative (-0.4% in 2016). On the contrary, the biggest pay gap in 2017 was observed in financial and insurance activity (38%), where 64% of employees are women. Reason:

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financial industry is characterized as "masculine"; therefore, more men are employed in higher positions.

Castagnetti & Giorgetti (2019) have found that the pay gap in the public sector is significantly smaller than that in the private sector. The authors attribute the lower level of the pay gap in the public sector to recruitment strategies, which pay greater attention to gender equality policies Women are more likely to work in the public sector than in the private sector, as the public sector offers greater security and stability in their work. On the other hand, the "glass ceiling" effect in the public sector is stronger. In total, the form of company ownership, as a separate workplace characteristic, contributes to reducing the overall gap. , According to Ball & Lagemann (2018), working in public sector reduces the pay gap in Europe by 0.6%. The largest effect of this factor is in Slovenia, equals -2.2%.

There is a negative correlation between size of enterprise and gender pay gap as bigger enterprises tend to ensure a more equal pay between genders. A negative link between number of employees and gender pay gap in German enterprises was found by Heinze (2006). Heinze explicates that larger enterprises are more susceptible to public pressure, and that both sexes are more likely work in comparable job positions, which constitutes to more pay equality for the same job. Cosic (2018) and Walter (1999) conclude that larger companies exhibit higher wages due to higher productivity of labour and lower overall costs due to economy of mass. Cosic (2018) also determines using US data that wages are more equally distributed in larger companies compared to smaller ones, as smaller ones show more variance in remuneration for employees with same characteristics.

According to the ILO (ILO (2018)), education in many countries is not a major problem, because women workers worldwide have reached the same (or even better) level of education as men. According to the 2018 European Commission report on equality between women and men in the EU (European Commission (2018)), women in the EU have on average acquired higher level of education than men. In the age group of 30–34 years, 44% of women and 34% of men have higher education. The results of the study by Ball & Lagemann (2018) also confirm a higher level of education for women than men in European countries; only in Germany the average level of education for women is lower than that of men. Therefore, the education factor has a negative impact on the gender pay gap. At the European level, the education factor has reduced the pay gap by 0.6%. The greatest impact of the education factor on the gender pay gap, i.e. over -4%, was identified in Croatia, Poland, Slovenia and Portugal. Thus, in the light of the gap decomposition, it can be said that the gap in education is not the cause of the pay gap in Europe, on the contrary, it helps reduce the pay gap between women and men.

Working hours and career breaks are other important factors. OECD (2018) reveals that in the 72 countries analysed, the portion of women who work part time is 14% and the figure for men is 7%. According to Boll & Lagemann (2018), at the EU level, part-time work is the second most important factor, which accounts for 2.8% of the pay gap. Meanwhile, Leythienne & Ronkowski (2018) found that working time accounts for 13% of the pay gap.

In the European countries studied by Ball & Lagemann (2018), women are more likely than men to have part-time jobs. They also work more frequently under fixed-term contracts. The lack of pay equity possibly increases due to the fact that with an increase in working hours, an increase in remuneration in many professions is not linear, i.e. working to a certain hour-threshold results in higher hourly wages (Goldin (2015)). Thus, it can be stated that part-time workers face a certain wage "penalty" for shorter work hours. Secondly, wages of part-time workers will not increase over time to the same extent as those of full-time workers, as part-term workers tend to have reduced access to on-the-job training opportunities. The part-time work/short work hour factor most significantly contributes to an increase in the pay gap in

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Western Europe. This factor has the greatest impact in Germany (accounted for 7.2% of the pay gap), where part-time work among women, especially working less than 60% of the full-time hours, is particularly widespread.

Kleven et al. (2019) in a quasi-experimental study of the Danish labour market found that the major portion of the (unexplained) pay gap attributed to gender inequality or discrimination should in fact be attributed to the dynamic impact of children. The birth of the first child does not affect the career of the Danish men, while the career of women changes. The long-run "child penalty" on women's earnings equals to 20%. The "child penalty" concept refers to lower wages compared to men, specifically associated with motherhood. Having children affects activity in the labour market, number of work hours, wages, choice of occupation, economic activity and enterprise. It should be noted that gender inequality related to having children has increased. This conclusion not only explains a large portion of the inexplicable pay gap attributed to discrimination, but also reveals that 80% of the wage gap in Denmark accounts for different job choices made by women related to motherhood and determined by preferences, social norms or potential discrimination associated with having children.

The goal of this study is to find and calculate the main factors affecting gender pay gap in Lithuania using available data and Oaxaca-Blinder decomposition, and using these results to prove or disprove hypothesis raised on the basis of existing literature and research on gender pay gap.

The following hypothesis were discerned:

1. In Lithuania, dispersement of the 2 genders into different economic activities (industries) and occupations strongly positively influences the gender pay gap, due to women being generally underrepresented in economics activities which generate greater pay.
2. The publically controlled enterprise factor should reduce the gender pay gap, greater control for gender equality in public sector, and result in fairer pay in Lithuania.
3. There is a negative correlation between size of enterprise and gender pay gap, as bigger companies tend to ensure a more equal pay between genders in Lithuania.
4. Education influences gender pay gap in a negative way, because average level of education of women is higher than that of men in most European countries and in Lithuania as well.
5. Per average, the total time spent at work is less for women than it is for men. Women tend to work shorter hours than men, have fixed-term contracts and part-time positions as they take on greater responsibilities in their families. This is true in Lithuania, thus the factor of hours worked widens the pay gap.

3. Research methodology and data

To test above hypothesis, and calculate factors we use the Eurostat introduced methodology based on the Oaxaca-Blinder decomposition (Leythienne & Ronkowski (2018)).

We start by decomposing the unadjusted gender pay gap (GPG). The unadjusted GPG is defined as the difference between the average gross hourly wages of men and women expressed as a percentage of the average gross hourly wages of men:

$$GPG = \frac{Mean\ (gross)\ hourly\ wages\ of\ men - Mean\ (gross)\ hourly\ wages\ of\ women}{Mean\ (gross)\ hourly\ earnings\ of\ men} \quad (1)$$

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The Oaxaca-Blinder decomposition described by Kitagawa (1955) and developed by Blinder (1973) and Oaxaca (1973) is the standard approach to analyse differences in wages. This procedure requires running separate wage equations for males and females conditional on the same human capital characteristics, allowing for different reward of these characteristics. After running regression models, a decomposition analysis of the difference between the means of log hourly wages of men and women is performed:

$$\ln W_{m;i} = \beta_m^0 + \sum_j \beta_m^j X_{m;i}^j + \varepsilon_{m;i}$$

$$\ln W_{f;i} = \beta_f^0 + \sum_j \beta_f^j X_{f;i}^j + \varepsilon_{f;i} \qquad (2)$$

Above are the separate wage equations for males and females, as shown by Ball & Lagemann (2018). These simple linear regressions calculate the relationships between independent variables *lnWm;i* and *lnWf;i* (mean logarithm wages for males and females respectively), and dependent variables *Xm;i* and *Xf;i* (human capital and other characteristics).

$$\overline{\ln W_m} - \overline{lnW_f} = \sum_j (\overline{X_m^J} - \overline{X_f^J}) \beta_m^j + \sum_j (\beta_m^j - \beta_f^j) \overline{X_f^J} + (\beta_m^0 - \beta_f^0) \qquad (3)$$

Equation 3 calculates the difference of the genders' mean log hourly wages, by joining and rearranging the separate equations (Ball & Lagemann (2018)). The first component of the decomposition represents the weighted sum of the gender differences in the specified characteristics, otherwise known as the effect of identified aptitudes; hence, it is named the explained part. We can further break down the explained part of the gap into all the characteristics we use in the regression equations and calculate the effect of each on the wage difference. Numeric values of explained parts for each characteristic describe how these characteristics, on average, are higher or lower for female employees than they are for male employees.

The second component equals to the sum of the gender differences in the calculated coefficients multiplied by the female aptitude variables. It reveals, which part of the pay gap is explained by the fact that the same aptitudes generate different market returns for women than for men. Therefore, we can call this part of the equation the effect of differences in coefficients. This section of equation reveals how differently the genders are rewarded for the same characteristics; therefore, it belongs to the unexplained part of gender wage difference.

While the third component is a constant that includes unidentified wage determinants that affect the pay gap, such as personal skills, negotiation skills, institutional attitudes, etc., and discrimination. This is the part not explained by talent or differences in coefficients, so it is also part of the unexplained gender wage difference. In this research, we apply the twofold

$$\Delta \bar{Y} = \bar{X}'_A \hat{\beta}_A - \bar{X}'_B \hat{\beta}_B \qquad (4)$$

Oaxaca-Blinder decomposition, using the R package "Oaxaca" developed by Marek Hlavac (2014). The decomposition equation is illustrated below. Equation number 4 is more

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concise, visualizing the subtraction of equations, and number 5 is expanded, revealing more elements:

$$\Delta \bar{Y} = \underbrace{(\bar{\boldsymbol{X}}_A - \bar{\boldsymbol{X}}_B)'\hat{\boldsymbol{\beta}}_R}_{\text{explained}} + \underbrace{\underbrace{\bar{\boldsymbol{X}}'_A(\hat{\boldsymbol{\beta}}_A - \hat{\boldsymbol{\beta}}_R)}_{\text{unexplained A}} + \underbrace{\bar{\boldsymbol{X}}'_B(\hat{\boldsymbol{\beta}}_R - \hat{\boldsymbol{\beta}}_B)}_{\text{unexplained B}}}_{\text{unexplained}}$$

(5)

The twofold decomposition divides the mean wage difference into two main parts: explained and unexplained. Twofold decomposition introduces a new referential coefficient vector Br, which can be adjusted to belong to either the "A" or "B" (male or female) groups, or to be a composite of both group coefficients (Hlavac (2014)). In this case, the coefficients are borrowed from the male group, which collates the equation of the Ball & Lagemann (2018) version already observed. The explained part equates to effect of identified aptitudes, and unexplained part equates to effect of differences in coefficients.

Lastly, we estimate the explained and unexplained GPGs by applying the decomposition results to the unadjusted GPG. For example, using the result of explained wage difference we can calculate how much of the GPG is explained by independent variables. We can also calculate the subcomponents of the explained GPG by applying the decomposition results to the unadjusted GPG. For a detailed research methodology, we refer the reader to Leythienne and Ronkowski, 2018.

The decomposition analysis uses the micro-level data from Structure of Earnings Survey 2014 (Eurostat (2014)). This micro-level covers the wages and the observed characteristics of individual employees. Independent variables represent the observed enterprise characteristics (enterprise size and enterprise control), occupational characteristics (type of economic activity and occupation) and personal characteristics (age, education, years worked in the current enterprise, employment contract and hours worked) are used in decomposition analysis (table A1). Age, education and work experience are human capital endowments. Job-related characteristics also correlate to human capital investment decisions.

Appendix table A1. presents the list of variables used in the decomposition analysis and the results of decomposition. The reference categories of categorical variables are marked bold in the table.

4. Results of Oaxaca-Blinder decomposition

Firstly we separately calculate log value of mean hourly wage for men (equal to EUR 12.66 (rounded) and women (equal to EUR 11.18), using this data we calculate the unadjusted GPG, which equates to 11.66%.

By decomposing the unadjusted GPG using Oaxaca-Blinder method, we find that gender differences in the specified characteristics account for a minor part of wage differentials, as overall explained GPG is 1.39%. The largest proportion of gender pay gap is due to different returns to productive characteristics and perhaps other characteristics not included in the data, as overall unexplained GPG is 10.27%. The estimated pay gap is 11.66% and the unexplained part accounts, on average, for 88.05% of the gender wage differentials.

Unexplained GPG 11.66% = Explained GPG 1.39% + Unexplained GPG 10.27% (6)

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We divide the explained GPG into the variables (characteristics) that influence it according to the Oaxaca-Blinder calculation (refer to table A1).

The results of the Blinder-Oaxaca decomposition reveal that the largest share, i.e. 2.9%, of the gender pay gap is explained by the occupational characteristics. At the same time, both occupational characteristics – type of economic activity and occupation – together contribute as much as 4.28% to the gap. This means that on average women work in economic activity sections and occupations with lower mean wages than men do. Therefore, the first hypothesis is proven, as industry and occupation not only explain part of the GPG, but the positive effect is strongest of all characteristics. The effect of occupational characteristics is attributable to the horizontal segregation of the labour market. Women tend to engage in feminized professions or economic activities, while men tend to form the majority in stereotypical 'male' jobs. Although vertical segregation and intra-profession wage differences are not reflected in these results, they make up part of the unexplained gender wage gap. Stereotyping different activities as inherently 'feminine' or 'masculine' is detrimental to wage equality, as a larger proportion of 'male' occupations are better paid than 'female' ones, while women who work in a 'male' job tend to experience a wider pay gap within the profession. In addition, women are less likely to be appointed as managers in some women-dominated activities.

Enterprise characteristics are comprised of enterprise control (public vs. private firm) and size (by number of employees). Altogether these characteristics widen the GPG by a much smaller 0.47%. Working in the public sector, versus the private sector, implies a wage penalty, yielding an increase in the gender pay gap by 1.05 %. This result disproves the second hypothesis that gender pay gap should be reduced in the publically controlled company versus the privately controlled company, due to greater wage transparency and a more regulated remuneration mechanism in the public sector. Such a result of the decomposition reveals the 'glass ceiling' effect, i.e. the pervasive resistance to the efforts of female workers to reach the top rank positions, is stronger in the public sector. The factor of enterprise size, on the contrary, forms -0.58% of the explained GPG, therefore it mitigates the GPG by 0.58% in Lithuania. This result proves the third hypothesis, as negative correlation between size of enterprise and gender pay gap was found. This effect, although modest, can be explained by the fact that the genders are differently distributed across firms with different size. Female workers work more often in large firms, which exhibit a higher fraction of women, compared with the smaller ones. Larger firms have higher capital/labor ratio and therefore have the capacity to pay higher overall wages and there are more of similar job positions. Discrimination by gender is less apparent, as larger firms are more accountable to their shareholders and the public.

Differently from the sum of occupational and enterprise properties, personal characteristics (hours worked, age, education, years in current enterprise, employment contract) narrow the gender pay gap by 3.35%, and the education factor (2.25% reduction) has the largest impact on this. Effect of education on gender pay gap is negative, proving hypothesis number four. Therefore, it can be said that the educational background is not the cause of the pay gap in Lithuania; on the contrary, it helps reduce the disparities between women and men. The educational attainment of women in the Lithuanian labour market is slightly higher than that of men and statistics show that more women are studying and graduating from higher education.

Although temporary contract has a minor effect, it has been positive, slightly widening the gap by 0.02%. Due to the combination of time spent between home and work women can be more likely to work on temporary contracts, receiving slightly less compensation due to the nature of the contract. In addition, temporary workers accumulate less human capital.

Years worked in current enterprise decreases the GPG by 0.97%, and hours worked in enterprise are also longer for women than for men, decreasing the GPG by 0.21%. In total, the

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"time-related" characteristics account for negative 1.16% of explained pay gap, disaffirming hypothesis number 5. Even though previous literature suggests that women tend to spend less time at work thus receiving lesser wages than men do, based on these results in Lithuania women work slightly longer hours and more years in the same company than men. The one exception is that more women work under temporary contracts, by a small margin. However, the data used for this decomposition does not include some important factors, which limits the interpretation of results.

One of the dataset not included is total years worked in lifetime, or years worked in the same industry. Using this information we could calculate the part of GPG caused by difference in men and women's total on-the-job experience. If we compared total years worked we might also see the impact of maternity leaves and childcare breaks on the GPG.

Also not included in this study is pay not in scope of the hourly wage. This could be pay for overtime work, bonuses and productivity-based compensation, which could reveal that men do more "extra" compensated work, and actual GPG is even bigger. Unconventional compensation plans and policies that oblige companies to disclose the internal pay difference between men and women would be appropriate measures to reduce the pay gap, especially in companies with performance-based pay. Bennedsen et al. (2019) justified the positive impact of such policy measures on the Danish labour market. In general, we can conclude that some of the labour market factors are more favourable to men and some to women, however, the share of the gap explained by the characteristics is not large, the overall explained gender pay gap is 1.39%, the unexplained adjusted pay gap is as high as 10.27%, which is often referred as the discriminatory effect. However, it is important to note, that the inclusion of more factors into the study should be considered, looking for a larger share of the GPG explained by the differences between men and women. Thus, we can assume that only a fraction of the unexplained adjusted gap measures the extent of discrimination.

The issue is that discrimination is very difficult to measure. Recent research in the field of human capital suggests that motherhood accounts for a very large share of the pay gap in the life cycle associated with 'child punishment'. This 'punishment' also includes the factor of discrimination against mothers, which occurs when, for example, the employer treats the female employee unfavourably and seeks to minimize the costs of taking maternal leave, thus, tends to invest less in her training and possibly pays her less for the job. However, the 'child punishment' for women is also determined by society. Policies such as higher compensation for men on parental leave could help reduce the burden of maternity on women. However, it must be reconciled that there will always be part of the pay gap and inequality in the labour market due to a woman's choice to combine work with family, or to choose only family.

Conclusion

The gender pay gap is a problem that is relevant in both the advanced and developing countries of the world. According to the ILO, the global gender pay gap in 73 countries in different regions and levels of income and development varies between 15.6% and 22%. This fact shows the imbalance in the labour markets. The gender-based wage inequalities exacerbate the country's macroeconomic situation, because through failure to provide equal opportunities for women to earn equal wages with men and to participate in the labour market, a portion of the GDP that women could have created is lost. Therefore, research into the pay gap and the factors affecting it is necessary and useful.

Analysing which single factors contribute the most to explain gender wage differentials, we find that years of schooling, experience and industry are the main ones behind the explained

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gender pay gap. The decomposition analysis in this study revealed that the occupational characteristics, i.e. gender differences in the sorting into sectors and occupations, implied women's wage penalties. The enterprise characteristics widened the GPG as well, due to the appearance of the 'glass ceiling' effect in the public sector. On the other hand, the personal characteristics mitigated the gender pay gap. These results are consistent with the findings of the previous research (e.g. Simón (2012), Ball & Lagemann (2018)).

Based on the findings of this study we can conclude, that policy measures aimed at reducing the gender pay gap should cover both cross-sectoral and within-sector wage disparities. Unconventional compensation plans and policies that oblige companies to disclose the internal pay gap between men and women would be appropriate measures to reduce the pay gap, especially in companies with performance-based pay.

Lastly, the inclusion of more factors into the study should be considered, looking for a larger share of the GPG explained by the differences between men and women. This would allow us to better assess the real effect of discrimination in the Lithuanian labour market.

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Appendix

Table A1. Variables and results of the decomposition analysis

Variables	Measurement or Categories	Contribution to explained GPG, %
Enterprise characteristics		**0.47**
Enterprise size	1-49 employees	-0.58
	50-250+ employees	
Enterprise control	Public	1.05
	Private	
Employee and job characteristics		**-3.35**
Hours worked	Number of hours	-0.21
Age	20-29 years	0.06
	30-39 years	
	40-49 years	
	50-59 years	
	60 years and older	
Education	Low (ISCED 0-2)	-2.25
	Secondary (ISCED 3-4)	
	Higher (ISCED 5-8)	
Years worked in the current enterprise	0-1 years	-0.97
	2-4 years	
	5-14 years	
	15+ years	
Employment contract	**Temporary duration**	0.02
	Indefinite duration	
Occupational characteristics		**4.28**
Type of economic activity	Economic activity according to the NACE Rev. 2 classification. **Reference category: P – Education**	1.38
Occupation	Occupation according to the ISCO-08 classification. **Reference category: 93 – Labourers in Mining, Construction, Manufacturing and Transport**	2.9
GPG estimations	-	
Overall explained GPG, %	-	1.39
Unexplained adjusted GPG, %	-	10.27
Unadjusted GPG, %	**-**	**11.66**

Source: created by the authors