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**FACULTY OF SOCIAL SCIENCES**

Institute of Economic Studies

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**FACULTY OF SOCIAL SCIENCES**

Institute of Economic Studies

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**Estimation of the optimal length of maternity  
leave**

*Bachelor thesis*

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## **Abstrakt**

Napriek tomu, že sa v súčasnosti celý svet zaoberá nerovnosťami medzi mužmi a ženami v rôznych oblastiach, rozdiel v platoch medzi pohlaviami je vo väčšine krajín stále veľmi výrazný. Moja bakalárska práca začína predstavením pojmu rozdielu v platoch pohlaví, do značnej miery na základe prehľadu literatúry sústreďujúcej sa na túto problematiku. Detailnejšie opisujem Českú republiku a vývoj platových nerovností v tejto krajine. Predpokladá sa, že jeden z faktorov, ktorý ovplyvňuje tento rozdiel, je rodičovská dovolenka a jej legislatíva, čo je aj kľúčová otázka pre moju analýzu. Druhú časť mojej práce preto venujem rozdielom v materskej a rodičovskej dovolenke medzi rôznymi krajinami, ktorú opäť zakončujem bližším pohľadom na situáciu v Českej republike. Posledná časť je empirická, kde sa snažím zodpovedať výskumné otázky ako aký je vzťah medzi rodičovskou dovolenkou a rozdielom v platoch medzi pohlaviami alebo či existuje možno optimálna dĺžka dovolenky vzhľadom na postavenie žien na trhu práce voči mužom. Pozorujem, že pre rodičov je dôležitým aspektom to, či im zamestnávateľ chráni ich pracovné miesto.

## **Abstract**

Although the whole world nowadays deals with inequity between men and women in different fields, gender wage gap is in most of the countries still very significant. My bachelor thesis begins with the introduction of the gender wage gap concept, mostly based on the literature review focusing on this issue. In more detail I describe the Czech Republic and development of earnings inequity in this country. It is believed that one of the factors which affect the gap is parental leave and its legislation, what is also the key

question for my analysis. That is why I dedicate the second part of my work to differences in maternity and parental leave among various countries, which I again end with the closer look at the situation in the Czech Republic. The last part is empirical, where I try to answer research questions like what the relationship between parental leave and gender wage gap is or whether there is perhaps some optimal length of the leave according to labour market outcome of women relative to men. I observe that the important aspect for parents is whether an employer offers them job-protection.

## **Klíčové slová**

pohlavie, mzdové rozdiely mužov a žien, rozdiely v platoch mužov a žien, rodičovská dovolenka, trh práce, krajiny OECD, Česká republika

## **Keywords**

gender, gender wage gap, gender pay gap, parental leave, labour market, OECD countries, Czech Republic

**Range of thesis:** 54 640 symbols

## **Declaration of Authorship**

The author hereby declares that she compiled this thesis independently, using only the listed resources and literature.

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Prague, May 13, 2016

Barbora Chochláčová

## **Acknowledgments**

I would like to thank the supervisor of my thesis, Mgr. Barbara Pertold-Gebická, M.A., Ph.D. for her patience and advice and to all of my great friends who supported me in my ups and downs.

# Institute of Economic Studies

## Bachelor Thesis Proposal

Author: Barbora Chochláčová

Supervisor: Mgr. Barbara Pertold-Gebická M.A., Ph.D.

Proposed topic: Estimation of the optimal length of maternity/parental leave

### **Description:**

Each parent who leaves the job for a parental leave faces the possibility of worsening his/her situation in the labour market or even losing the job. Across different countries there are many different parental leave policies. They vary in the length of the leave and in the financial support.

In my thesis I would like to take a deeper look in these policies on the OECD countries level, to examine how different aspects of the leave change the position of women/men in the labour market. Mostly it is a woman who leaves a job for a parental leave, therefore I would like to examine the relationship between the parental leave and gender wage gap as an additional macroeconomic measurement to the employment or unemployment rate.

### **Research question:**

What is the optimal length for a parent to be on a parental/maternity leave? In what time should she/he return to work so that she/he has the best possible position in the labour market? What other factors have effects on the parent situation in the labour market after the parental leave? What exact effects do they have?

### **Outline:**

- i) An introduction to the parental leave issue and how it has changed during years.
- ii) A comparison of different parental leave policies.  
Econometric analysis of the problem – finding and using all essential variables to get the best results – the most reliable and sample matching.
- iii) Conclusion of my research and interpretation of the outcome: what results did I get? Do these results have some evidence in real economics? /Do they correspond with what we can examine in the real labour markets? Possibly pointing out some contribution of my research and work.



**Preliminary literature:**

Thévenon, O. and A. Solaz (2013), “Labour Market Effects of Parental Leave Policies in OECD Countries”, OECD Social, Employment and Migration Working Papers, No. 141, OECD Publishing.

Salverda, Wiemer; Checchi, Daniele (2014) : Labour-Market Institutions and the Dispersion of Wage Earnings, IZA Discussion Papers, No. 8220

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## Introduction

Gender wage gap is one of the most discussed and trending topics of our time. Despite the fact that there are already plenty of studies regarding this issue, I decided, exactly due to its popularity, to have a look at it as well, from a slightly different angle as was before, taking into consideration the latest findings and available data and hopefully to bring some new as well as up-to-date conclusions.

The formal mathematic definitions exist in various forms, one of them, which I am dealing with, is given in the *Data* section. Generally speaking, it is the difference in wages between men and women. However, its real-life meaning and impact is not so straightforward. It is historical fact that women, on average, always earned less than men. Women were trying to gain comparable pay already during first wave of feminism in the 19<sup>th</sup> and early 20<sup>th</sup> century. Phrase *equal pay for equal work* arose. This principle was already incorporated into the Treaty of Rome<sup>1</sup>. The equalization effort resulted in 1963 in USA and 1970 in Britain in so called Equal Pay Act. The legislations should have provided the same wage for same work regardless the sex. These can be considered as ones of the first laws concerning gender pay gap. Unfortunately, even after implementing such measures, gender wage gap has not disappeared yet. Although its magnitude can be considered shrinking, especially in more developed countries, it is still present in each of them. According to my data, the development of average gender wage gap for the countries in my sample is shown in *Figure 1*. It is visible that the earnings inequity drops quite considerably – from 17,17 in 2005 to 14,72 in 2012. This may imply that gradual levelling out of the wage differences is on track. However, the situation varies across countries and despite the progress in couple of countries, there are still some in which the gap persists on the more or less same level.

There are several reasons why pay gap is appearing. One of them is most likely connected with parental leave legislation and the decision to leave labour market for couple of weeks around childbirth. This decision is in the majority of cases made by women, what leaves them in a different labour market position and may create a potential gap between genders. How, and if at all, parental leave legislation influences women's labour market outcomes would be the key concept of my thesis. I try to answer

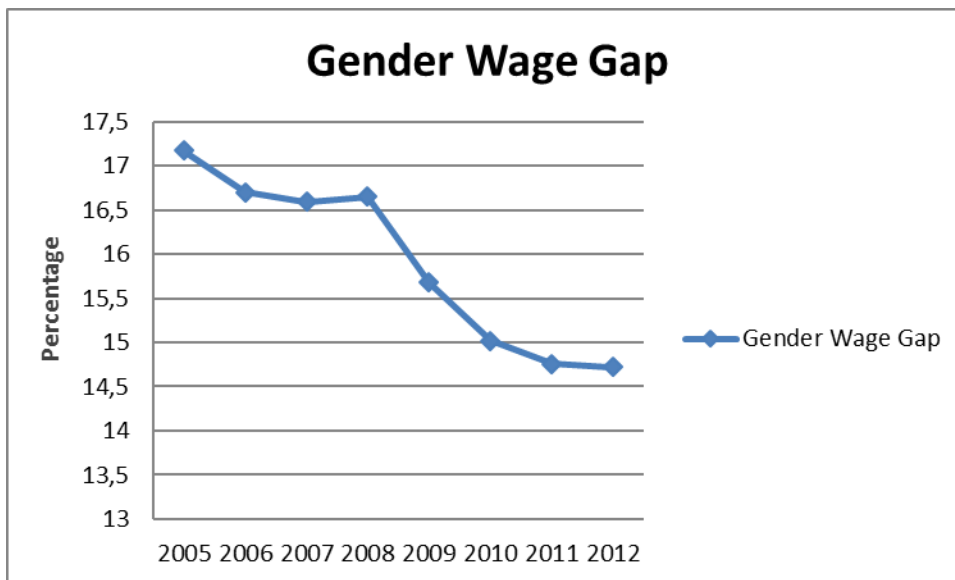
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<sup>1</sup> This was the first legal framework of European Union, former known as European Economic Community, signed in 1957

the question whether there is some optimal length of leave guaranteed by legislation that provides women with the most convenient labour market status, more specifically with the lowest wage gap in comparison to men.

My thesis is organized the following way. In the first part I focus on the topic of gender wage gap mostly by looking at the past studies, papers and articles. At the end of this part I deal with the Czech Republic case. Then it continues briefly with the parental leave legislations also terminating by the situation in the Czech Republic. The empirical part starts with data section and chosen methodology. Afterwards I present the results of my analysis and the final part is dedicated to conclusion.

*Figure 1: Development of the average gender wage gap during 2005-2012 period in the OECD countries*



*Note: Countries with accessible gender wage gap data during the period are used*

*Source: Author based on OECD Earnings and Wages Database*

## 1. Gender Wage Gap

### 1.1 Gender Wage Gap Literature

Gender wage gap is, generally speaking, difference in wages of men and women. This phenomenon originates due to many factors, which I would like to introduce to you in the following section by reviewing couple of researches and articles dealing with the topic. As something what affects in huge people's daily lives, many institutions and

organisations are trying to reduce this gap and I am about to present their latest key legislations or recommendations.

### 1.1.1 What are the causes?

Why does this gap even exist? What are the reasons it actually originates? An interesting article regarding this topic is trying to explain the reasons by looking at the gap evolution in the United States within a long time period and examines leaps and the difference circumstances that appear in the years 1979, 1989, 1998 and 2004 (Blau, Kahn, 2007). Although it considers just the USA, the reasons that were found could be applied generally. First identified cause is definitely work experience. According to the article, there was not significant difference in the level of education between men and women, but earned skills were the case of quite enormous gap in 1979 as well as it explains vital part of gap also in 1989. The other reason was connected to the ethnic composition in that time, when it was more typical that non-white worker was a woman. As a result of racial discrimination they also earned less money. According to data from July 2014 The Census Bureau database, the number of non-white men, meaning not just black, but for example also Asian or mulatto, in USA in total is around 2,7 million lower than non-white women<sup>2</sup>. By looking at Census analysis of 2014 wages, the difference between white's and non-white's earnings appears to be markedly shrunk – around 2 thousand dollars annually<sup>3</sup>. Although the racial wage gap still persists and the fraction of non-white women remains in U.S. higher than non-white men, I personally think that the influence of this factor is almost negligible nowadays, even more when we are dealing not just with the United States, but the whole OECD area.

Women often tend to work in lower-paid occupations, what may have created most of the gap in 1998. At that time women earned higher level of education, what usually erased their potentially lower work experience. Moris Triventi with reference to Crompton and Lyonette in his study “The gender wage gap and its institutional context: a comparative analysis of European graduates“ (2013) points out that also nowadays the model of the traditional family is still somehow conservative, where woman should provide service for family and man is a breadwinner. Hence men are obliged to find a

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<sup>2</sup> Computed by author according to Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States, States, and Countries: April 1, 2010 to July 1, 2014 by U.S. Census Bureau, Population Division

<sup>3</sup> Computed by author according to U.S. Census Bureau, Current Population Survey, 2014 and 2015 Annual Social and Economic Supplements

job in better paid positions, while women are either inactive and live as housewives, or are more likely to work in lower-paid jobs, like cashiers or chambermaids alternatively lower-paid sectors like educational system or health system. In OECD area we can find on average just 30,9% of managerial positions held by women<sup>4</sup>. Furthermore when taking into consideration also the European Union, the number of women in companies' presidential positions compared with men's is 7 to 93 and in the case of board members 23 to 77. Despite this fact, this amount can be viewed as quite overwhelming regarding the situation of past years when a woman in high occupation was something exceptional. For instance, evaluation of the board members statistics for 2003 says that the proportion of presidents was 2 to 98 and board members 9 to 91<sup>5</sup>.

Majority of mentioned causes are supported also by the European Commission site and there the topic of gender pay gap. In addition to that they are talking about more of them. Since women, especially younger ones, are more likely to leave labour force to take care for children, they have consequently less time to gain experience and so employers are less willing to employ them. Not to forget the possibility that companies or other employers are giving them less important, easier or just short-term tasks and again it has impact on their skills. When concerning job related factors, apart from the type of tasks and work responsibilities, the key in evaluating experience can be also firm's reputation or sector of employment (Triventi, 2013).

What is more, not just maternity leave, but as well care for a family member is vital source of lack of experience. Women tend to stay at home to take care of their sick child or elder parent. They are also usually less able to work during weekends or overtime, as they have to be in disposal for their families and maintain household. The influence of children is also pointed out by Triventi (2013), when he mentions potential motherhood as something what may discourage employers from hiring women to certain positions. Later, when they are about to return to work after the parental leave, they are already in age when their working skills begin to be strongly incomparably lower to the similarly old men.

The issue of lower wages is also connected to choice of education. In spite of the fact that in these days there are more high-educated women than men, women who decide to study at a university have tendency to choose rather fields of social sciences

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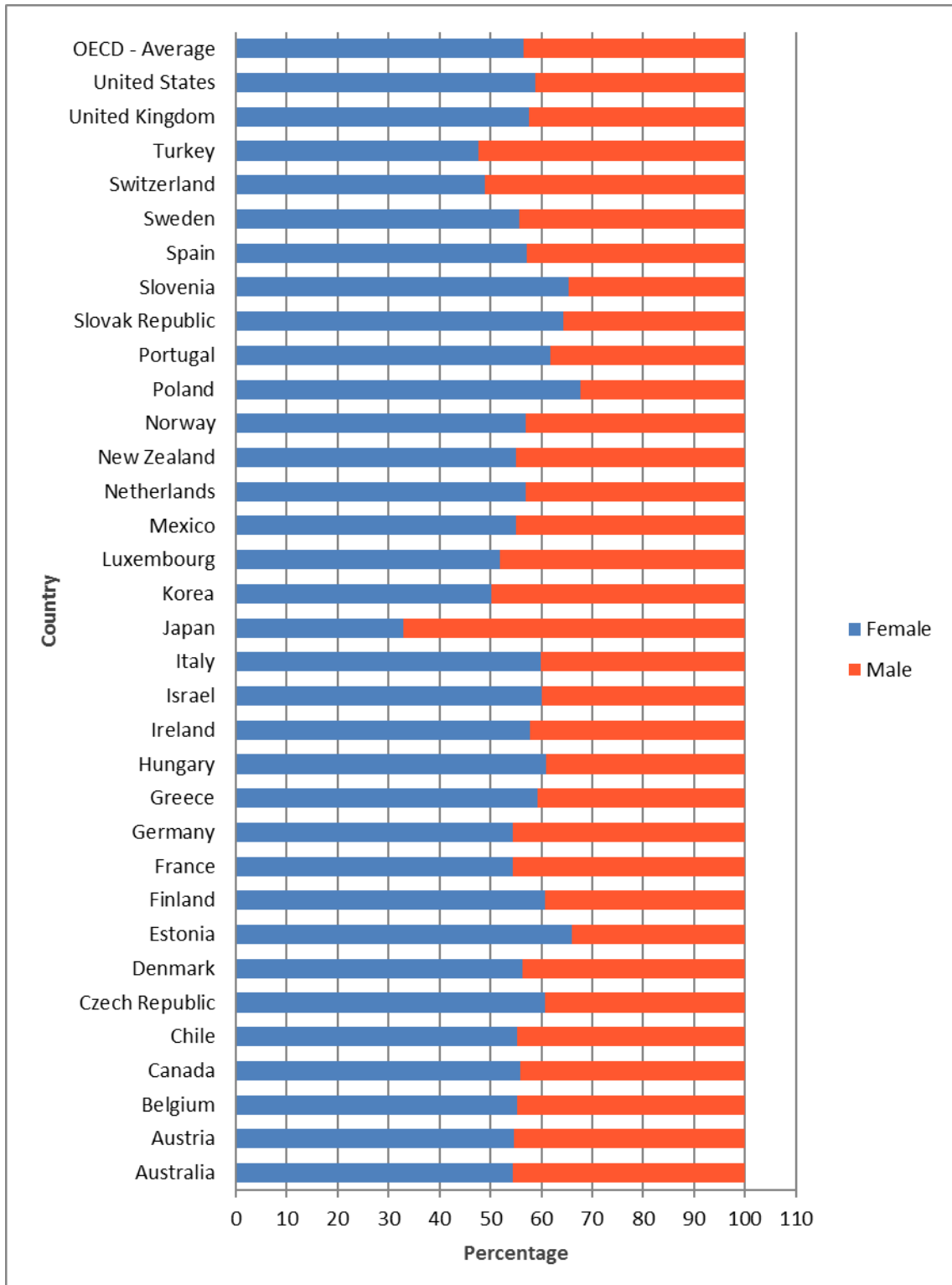
<sup>4</sup> According to OECD Family Database, Gender differences in employment outcomes, Female share of managerial employment, 2014

<sup>5</sup> Source: European Commission, Database on women and men in decision-making; second half of 2015 and 2003



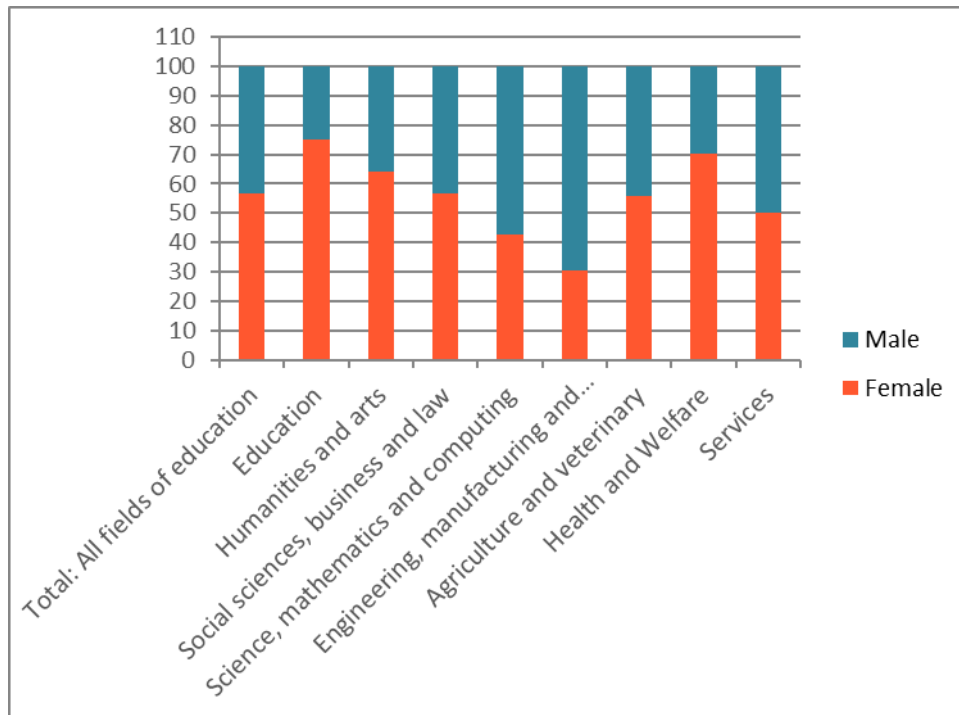
and education than technical or mathematical ones, which are usually in most countries much better remunerated (Triventi, 2013). These findings are also highlighted in the latest OECD data and visible in the *Figure 2* and *Figure 3*.

*Figure 2: Share of master or similar graduates by gender in 2013 in OECD countries*



Source: Author based on OECD Education and Training database

Figure 3: OECD average share of master or similar graduates by gender in 2013 in different fields



Source: Author based on OECD Education and Training database

Triventi adds as another frequently occurring factor contributing to the wage gap women's and men's different preferences in life. He argues that men are more often those who are determinedly building their careers, either on their own decision or due to the needs of their children and families, whereas many women settle for less lucrative jobs in favour of their private lives or do not work at all. This life goal diversion as a factor causing wage differences is also supported by Polachek (2014).

### 1.1.2 Gender discrimination as a factor?

The question, which may be worth asking, is whether gender wage gap means that women do face discrimination. As Blau and Kahn (2007) suggest, when controlling for non-discrimination factors – education, experience, field of industry – and for race due to the fact that non-white people earn less on average, they still come across quite considerable gender pay gap. Of course, their research is targeted on U.S. and by adding these controls their dataset shrunk a lot. We can however still consider their findings to be significant and it can be concluded, that according to their data and methodology

there is definitely presence of residual wage gap, usually referred to as discrimination. Some may be connected to prejudices that women are not able to handle certain job tasks or the tendency of keeping women on traditional women's occupations and men on men's, which are usually connected to higher salaries than those for the women's jobs. Some to the worry of potential maternity leave and further absence at work due to kids or other family members and needs (Triventi, 2013). Triventi also mentions division of job's discrimination into *allocative* and *valuative* discrimination. The first one refers to the cases when women are disadvantaged relative to men during recruitment or when it comes to promotion, while the latter to wage discrimination (Petersen and Morgan, 1995). Anyway, there are still intentions of OECD countries to implement even more laws, legislations and other measures concerning this topic than are in force nowadays.

Different point of view is provided by Polachek (2014). According to his findings mostly targeted again on the United States, demographic factors play huge role in explaining gender wage gap, especially age, marital status and children. As there is almost no evidence for gender gap among young men and women, even less significant if they are single, he claims that this somehow proves absence of discrimination. Gender wage gap is changing over various demographic groups and in some it is negligible, so the reasons are not discriminatory. From his perspective, the most convenient explanation is “the life-cycle human capital Framework”. When looking at labour force participation of married men and women, he sees notable differences, which are much smaller in the case of single ones. This theory holds also for different age groups. As a result married women tend to have far less labour market experience than married men, while singles are in more or less similar level. He also argues that women are less expensive working force, so there is no reason for companies to hire and pay more to men. Furthermore firms will suffer if they do not employ highly qualified women just because of some prejudices. Polachek (2014) also adds that by experiment on the number of interview calls after CV was sent, there was no evidence found about the discrimination towards women. What is more, women were invited to the interview even more often. Similar studies were done in Australia, Chile and Peru with similar results.

Hence, since public sector is not motivated by profit, gender pay gap, which appears in these fields, may be truly connected with direct discrimination (Polachek, 2014). There are evidences that gender wage gap in public sector tend to be lower than in private sector (Foubert, 2010). This publication focuses on the European Union and

the European Economic Area countries, where just Iceland, Hungary and Sweden reported otherwise. However, it does not tell us anything about whether, even if the magnitude is lower, the causes are not really more discriminatory.

## **1.2 What is being done to reduce it?**

Gender gap in labour market, whether we are speaking about labour market participation or wages, is nowadays serious issue and countries are aware of the fact that improvement in this area may result in better overall economic performance. There are actually two different angles of efforts towards the improvement in this area. First of all, it is important to make sure that women are rewarded in the same way as men for the same results. Secondly, they should be encouraged to care about their careers, to work in better-paid positions and better-paid fields. These two aspects should complement each other, as there are still huge pay differences between genders also in really high-paid occupations (Lam, 2016).

The importance of this topic can be demonstrated by the fact that on the ninth summit of G20<sup>6</sup> in 2014 there were implemented 11 policy areas<sup>7</sup> which should help decrease the employment participation gap in these countries by 25% till 2025. One of these areas concerns improvements in providing “affordable and quality child care and paid parental leave”. Level of success in ensuring of these implementations should be tracked also by gender pay gap indicator (OECD, 2015).

European Union started with slogan *Equal pay for equal work* already from the first Treaties since 1957, where all member states should follow this principle. In today's directives we can find *EU Gender Equality Recast Directive (2006/54/EC)*, which should ensure fulfilment of gender pay equality (European Commission site, 2016). This message appears also in the programme of European Commission *Strategy for equality between women and men* for years 2010-2015. When evaluating this programme we focus on gender pay gap average value in EU for 2010 and for latest 2014 data. Unfortunately we have to admit that no progress has been made and the gap

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<sup>6</sup> G20 refers to Group of Twenty – 20 biggest economies all over the world represented by their governments or central banks

<sup>7</sup> More about these implementations can be found in OECD report here <https://www.oecd.org/g20/topics/employment-and-social-policy/Monitoring-progress-in-reducing-the-gender-gap-in-labour-force-participation.pdf>

remains the same as was in 2010 – 16,1%<sup>8</sup>. Also by Commission's report “Evaluation of the strengths and weaknesses of the Strategy for equality between women and men 2010-2015” the progress in this area is really slow. As the main reasons they indicate “a lack of transparency in pay systems, a lack of legal certainty on the concept of work of legal value and procedural obstacles“. To make more people aware about the topic, the Commission constitutes *European Equal Pay Day* to be held on the fifth of March. According to the Commission applying *Equal pay for equal work and work of equal value*<sup>9</sup> on national level is the key mission of today.

There is a phrase for explanation of widening gender wage gap as women get older as well as for married ones, mentioned already by Polachek (2014), and it is *motherhood penalty* (Lam, 2016). Of course fathers earn more and gain more work experience than single men and far more compared to mothers, when they are usually the only contributors to the family income and consequently cannot lose their jobs and are also willing to work more hours. On the other hand mothers are often fully engaged into raising the child. The importance of quality maternity and parental leave policies, which would enable mothers to find optimal balance between career and family life, is crucial here. Some claim that the key to closing the pay gap is in sharing the care for the child and so to convince fathers to take a part of the leave (Giang, 2015). Paternity leave should be matter of course rather than an exception. Mothers would not be seen as the ones who are constantly absent at work and, what is more, they would not lose skills and experience and would have more opportunities to resume in their career life where it ended.

Whether introduction of equal pay laws has really helped so far, is not that easy to prove, as it is difficult to evaluate them. There are just few studies and their outcomes are very inconsistent and inconclusive. One of studies suggests that after implementation of Equal Pay Act in the U.S., there followed no change in gender wage gap. Author though reminds about the possible impact of rise in woman labour market participation in the late 60s and early 70s. On the other hand, research made in Japan shows that after Equal Employment Opportunity Law became valid, the number of women in labour force increased rapidly. Again, legislation change as a reason may be misleading, because women changed their attitude to marriage and started to marry later if at all. Author's main legislative suggestion is focused on non-competitive fields,

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<sup>8</sup> Eurostat, Gender Pay Gap in unadjusted form

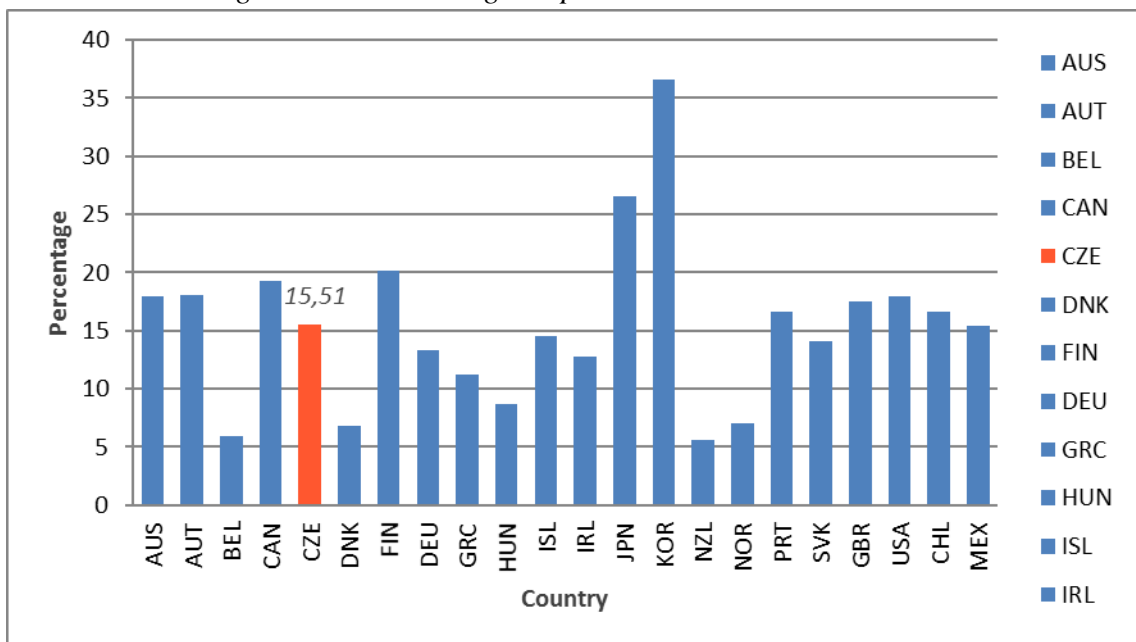
<sup>9</sup> European Commission: Strategy for equality between women and men, 2010

where the presence of discrimination is more probable, as I already mentioned before. Boosting of the economic competition is by his words key to success in this fight (Polachek, 2014).

### 1.3 The Czech Republic case

I take a look at the gender wage gap data provided by the OECD Earnings and Wages database for countries with available data for 2013. Gender wage gap is here computed via median earnings, more about that is explained in *Data* section. The cross-country comparison of the gender wage gap is visible in *Figure 4* below, with highlighted value for the Czech Republic – 15,51%.

*Figure 4: Gender Wage Gap in OECD countries in 2013*



*Source: Author based on OECD Earnings and Wages Database*

When looking up for information about the gender wage gap for the Czech Republic in the European Commission site, we come across the value of 22,1%. This is due to the different computation method – as difference in average gross hourly wages between men and women. Whether referring to one or another does not matter that much, we can still conclude that this value is above the average (in first case average of

OECD countries with available 2013 data – 15,39%<sup>10</sup>, in the second one EU average in 2013, which represents 16,3%<sup>11</sup>).

Historical data available from the OECD database start in 1996. I believe that the reason is not only that few years earlier the Czech Republic formed together with Slovakia one country, but also the fact that the regime was not democratic and such topics weren't among the interests of communism and actually the earnings were not in hands of employers themselves (Mysíková, 2012). Mysíková in her analysis “Gender wage gap in the Czech Republic and Central European countries“ (2012) reflects the fact that slightly before the Velvet revolution, the gender wage differences in former Czechoslovakia were really high – women earned only 66,1% of men's income in 1987. One of the reasons why the gap has decreased after 1989 could be withdrawal of lower-paid women from the labour force (Mysíková, 2012). Though, the gender wage gap has not fallen under 15% within past two decades. The evolution of it is depicted in *Figure 5*. Apart from the first five years we can see that the gap is quite stable, the changes are not out of the absolute value of one percentage point around the latest 16,1% computed for 2014<sup>12</sup> (Only 2008 value was higher – 17,99%). This indicates the result that within past couple of years no remarkable change occurs. There are several reasons which may contribute to this condition, mostly idleness or poor performances from the state's site, but maybe also changeless preferences of women. The first aspect may be connected to the fact that the Czech Republic is exactly the case of undervaluation of sectors dominantly occupied by women, such as education system or health system. The latter one to the still remaining conservative structure of families and women's tendency to stay at home whenever it is needed. Czech women are also often employed in the lower-paid positions.

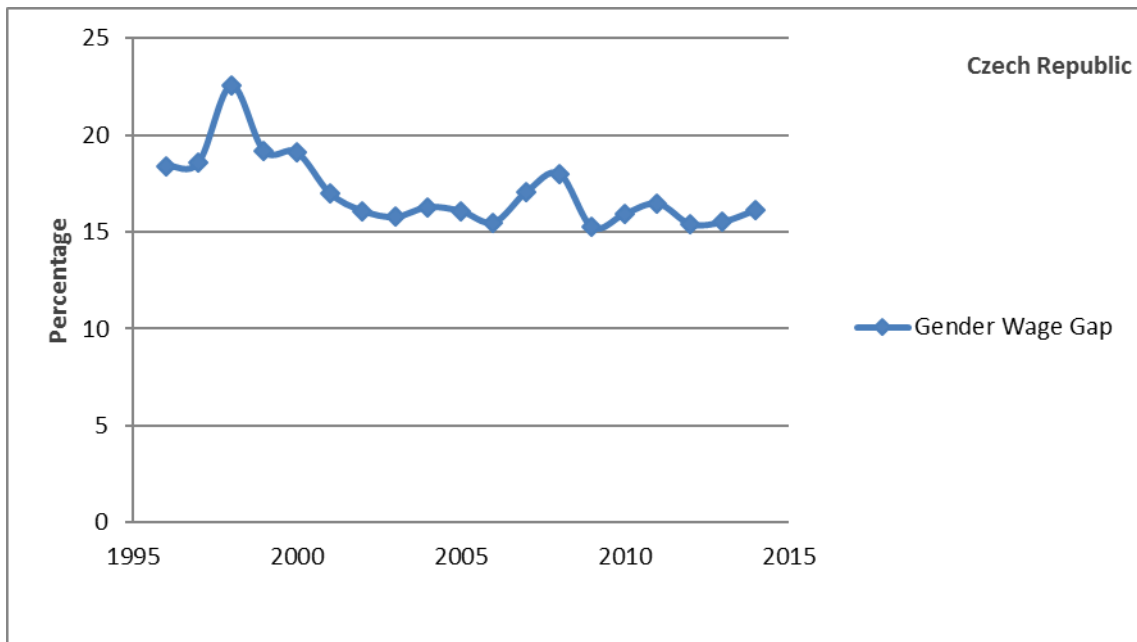
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<sup>10</sup> Author according to OECD Earnings and Wages Database

<sup>11</sup> Eurostat, 2013

<sup>12</sup> According to OECD Earnings and Wages Database

Figure 5: Gender Wage Gap history in the Czech Republic 1996-2014



Source: Author based on OECD Earnings and Wages Database

### 1.3.1 Attempts against inequity in Czech Republic

Czech Republic reacts to the latest evaluations of its pay gap and sends controllers to companies to investigate it. Some people believe that the crucial contributors in this issue are job agencies, which allocate employees to the firms. They argue that the earnings via agency are incomparably lower than they could be in case of direct contract with the company, what may also apply wage discrimination towards women. However, critics argue that it is almost impossible to legally prove gender pay discrimination, whereas it is quite easy for firms to defend the wage segregation by justifying the additional work responsibilities for men.

Of course as a modern developing country as well as a member of the European Union, there is legal legislation, which prohibits gender discrimination in the labour market. The Czech Republic has this ban in Anti-discrimination act the last revised in 2009.

The country is also trying to raise awareness of population about earnings inequity issue since 2010 through annually organized Equal Pay Day. Organizers are



Business and Professional Women<sup>13</sup> and the event took place on the 18th and 19th of March this year.

#### **1.4 Previous studies' results**

There have been many researches dealing with the issue of gender gap. They differ in indicators, like employment rate or wage related measurements, methodology and of course periods and countries examined in their analysis. Like I am mentioning already in the *Introduction*, my analysis focuses on the relationship between parental leave legislations and gender wage gap. The study which is mostly related to this one is provided by the OECD in “Labour Market Effects of Parental Leave Policies in OECD Countries“ - an analysis of the optimal leave legislation for labour market outcomes on data of 30 OECD countries in years 1970-2010 (Thévenon and Solaz, 2013). The paper builds up on “The economic consequences of parental leave mandates” (Ruhm, 1998). They do not use parental leave just as the number of weeks, but extend it according to payments as well – taking into consideration whole period also after parental leave, when parent receives payments and in case of several options, authors count with the shortest period with the highest gains. They do not take account of the job protection at all. Their findings can be summed up as follows: The longer the legislative paid leave, the better women's labour market outcome, conditional on the fact that the paid leave is no longer than circa two years. This does not apply when weekly earnings of full-time employees are taken as a dependent variable. In this case the effect of paid leave is negative within the first year, then it stops increasing gender pay gap. As a possible reason the authors state potentially higher-earnings group of selected women, whose income might be strongly affected when leaving the work for more than one year (Thévenon and Solaz, 2013).

Because Ruhm is the author of the initial paper, which inspires the OECD research, I discuss also his results. He is dealing with the period from 1969 until 1993 in nine Western European countries. His study claims that employment-to-population ratio is increasing till three months period of paid parental leave, while it does not have significant, rather tiny effect on relative wages. For longer periods around nine months the ratio continues to increase, although wages are decreasing (Ruhm, 1998).

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<sup>13</sup> Czech branch of worldwide operating nonprofit organization, which focuses on development of women in different areas; more information at <http://bpwcr.cz/>

All the other studies examine gender wage gap in more general way, usually not just from parental leave legislations point of view, but they are trying to catch all the possible factors influencing wage inequity. This is for example the case of Triventi's (2013) analysis. He uses five determinants of gender wage gap – human capital, job-related statistics, working hours, family-related statistics and residual wage gap. He concludes that there are huge differences in wages between men and women and his variables explain around 64% of this gap, from which 6,4% is dedicated to family factors, such as number of children and family care characteristics. Even though this number is not from the largest, still explains quite a lot of wage inequity and definitely cannot be neglected. Moreover, the fact that Triventi studies specific population group – tertiary institution graduates – might affect the overall impact of family-related factors. Despite everything, it can be said that maternity and parental leave policies, which influence decisions about family life, are important for wage structures and so also on the gender wage gap.

## **2. Parental leave legislations**

### ***2.1 Situation in the OECD***

Period, which a mother or, eventually, a father can spend out of the labour market to take care of a newborn child, can be divided into several parts. These parts vary in their lengths or provided allowances across different countries and not all of them are available in each country. There is maternity leave, which covers the time immediately before and after the birth instituted due to health of a woman and a child. Then follows parental leave – further payments, protections or other benefits for new parent. Additionally some countries may provide paternity leave dedicated specially for fathers, childcare or other kinds of help. They differ also in the extent of provided payments or offered job-protection.

The motivations of governments to offer either longer or shorter leave entitlements can be various – from the potentially lower expenses on paid leave rather than on public childcare or intentions to raise the wellbeing of children, up to forced lowering of the unemployment rate (Thévenon, Solaz 2013).

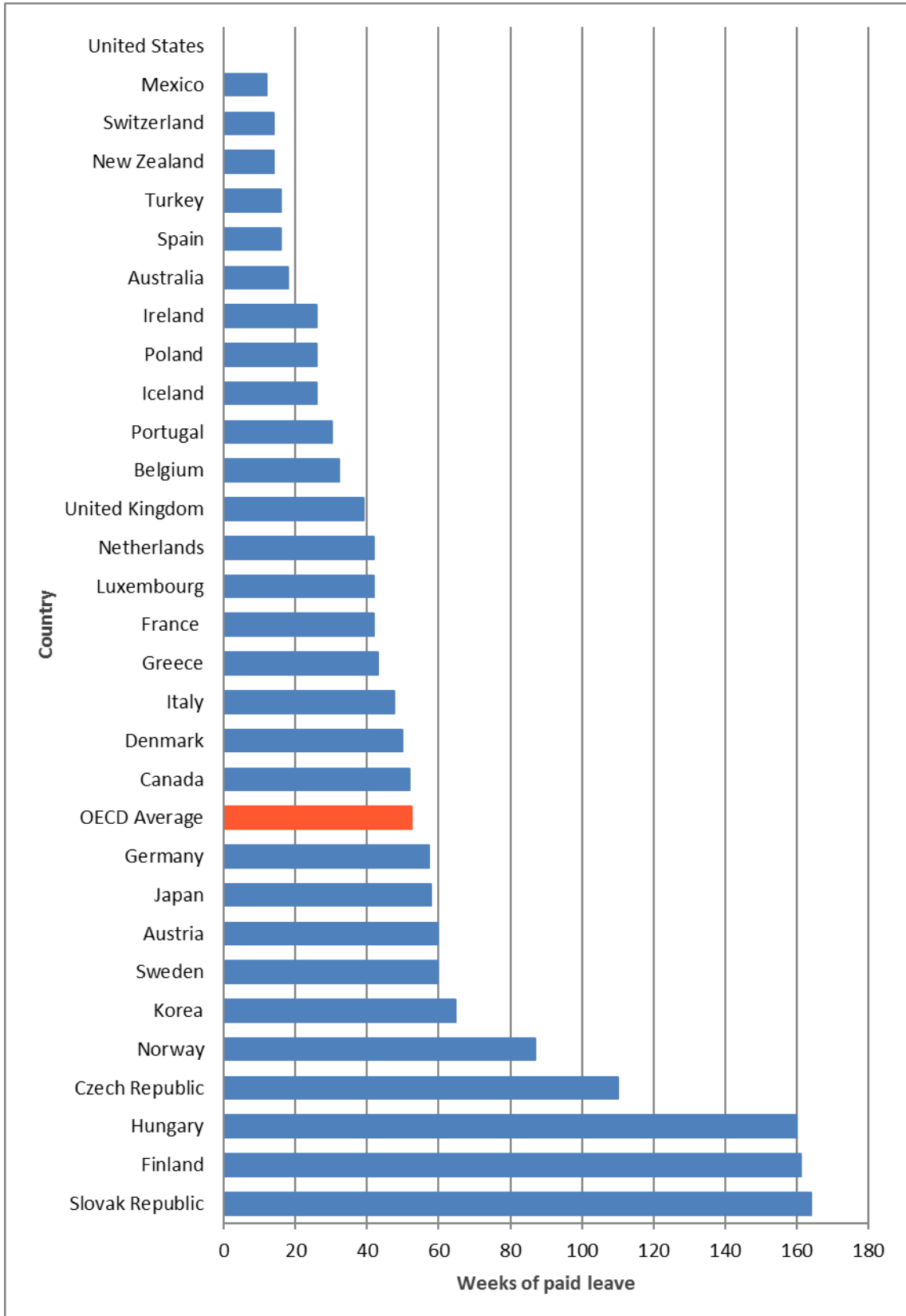
First of all I take a look at the lengths of paid leave in all of the OECD countries. Paid leave refers to all payments available to mothers around the birth of her child and

afterwards, including maternity leave entitlements, parental leave or other childcare benefits and allowances (*Figure 6*). We can observe enormous differences across countries with the United States remaining the only country with no paid leave entitlements and, on the other side, extreme cases of Slovakia, Finland and Hungary with up to 160 weeks of provided payments. Of course these countries differ in payment systems, from which Finland's is often denoted as the one of the best worldwide. On contrary the Slovak one has plenty of room for improvement<sup>14</sup>.

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<sup>14</sup> By evaluation of non-governmental organization Save the Children's 16th annual Mothers' index, considering factors such as maternal and child's health or economic status, it ranks on the second place last year, just after Norway out of 179 countries all around the world. In past years 2014 and 2013 it fit in the first place. While Slovakia takes 34th place, with almost all of the OECD countries above it.

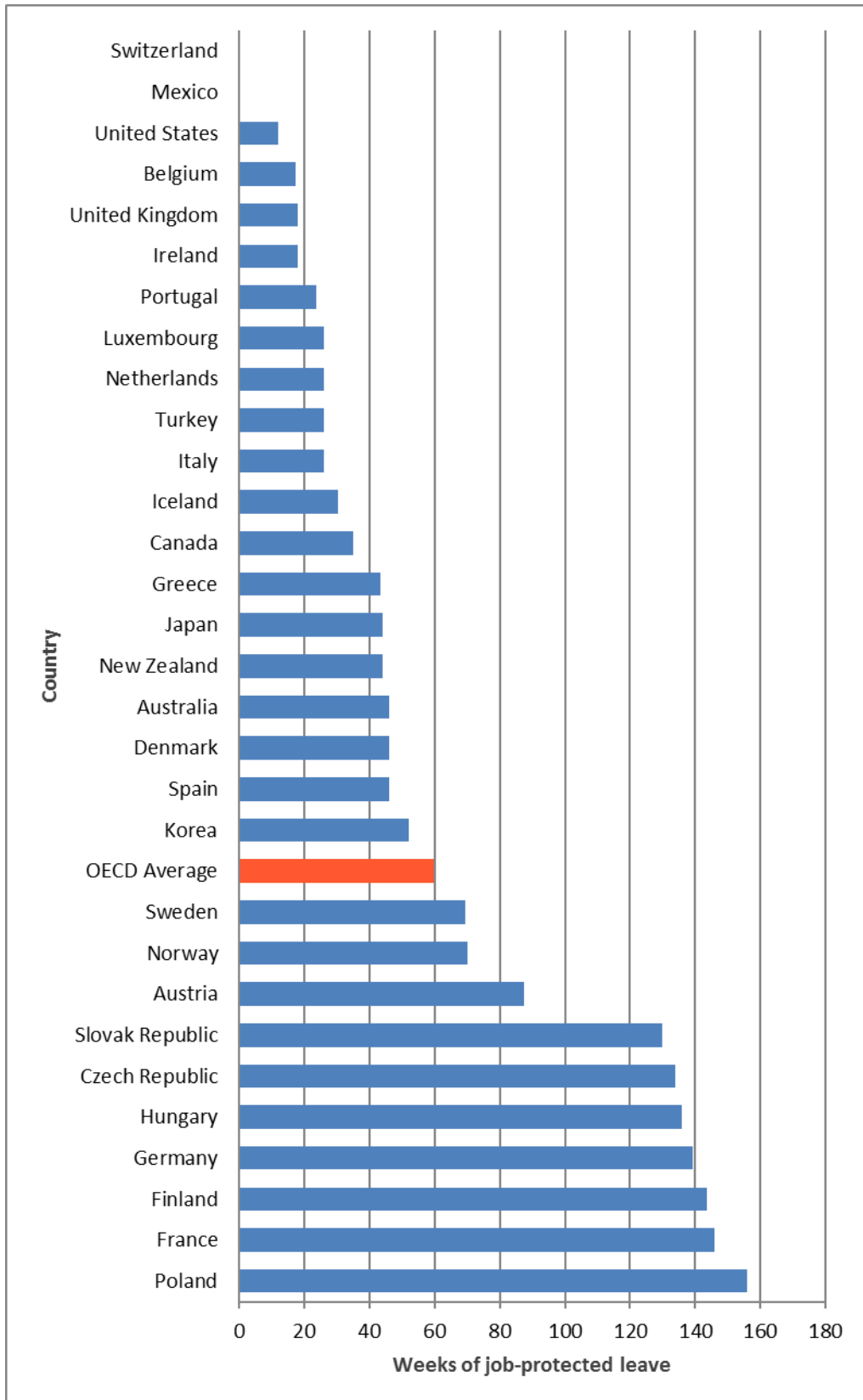
*Figure 6: Lengths of paid leave in weeks in OECD countries in 2014*



*Source: OECD Family Database, Trends in leave entitlements around childbirth*

*Figure 7* depicts leave lengths according to the offered job protection available to mothers. Job-protection during maternity leave weeks is excluded, what is different from the data used in my analysis. The issue of whether job protection or payments are considered by parents as more appealing, is examined further in the empirical section. Opinions that job-protection affects decision-making of new parents more strongly than receiving payments may be supported by the higher OECD average of the lengths of protected leave than the paid ones. Even the USA – the only country from whole region which does not have secured any parental allowance for mothers – provides some minimum level of job-protection. Though, it is good to remember that the payments vary during the leave. They are usually much higher at the beginning, when the amount is calculated as a percentage from former woman's income, while they are usually flat for everyone when the maternity leave ends. This may play an important role in that why women prefer job-protection towards financial support.

*Figure 7: Lengths of job-protected leave in weeks in OECD countries, without maternity leave weeks*



*Source: OECD Family Database, Trends in leave entitlements around childbirth*

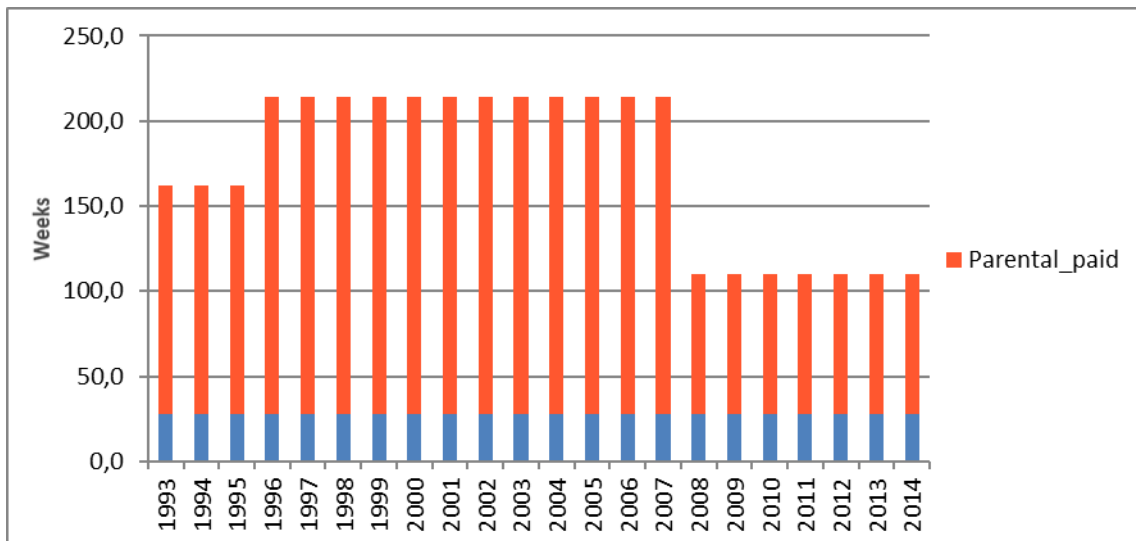
Father-specific leave is something that can be still considered as rather not so promoted, although it does become more and more popular. This phenomenon started to more markedly appear in the new millennium and is implemented in still more country legislations. We can come across Korea or Japan, which introduced up to more than 50 weeks of paid leave set just for fathers. The OECD average is around 10 weeks, with no father-specific leave entitlements in Canada, Slovakia, Switzerland, Turkey, USA, Ireland, New Zealand and neither in the Czech Republic, from which the first four do not provide any job-protection for fathers either.

## **2.2 Parental leave in the Czech Republic**

Maternity leave in the Czech Republic lasts for 28 weeks and this period hasn't changed since 1988. Prolonging to 37 weeks is possible in case of twins or more kids. Maternity leave allowance makes today 70% of previous gross earnings. The leave can be also divided between parents, when father is capable of using leave after the first six weeks from the birth. Although there is proposed the bill about one week of paid paternity leave during first six weeks after the childbirth. This can be seen as a very positive step, as was already mentioned paternity leave is something what may lead to progress in achieving of the pay equity. The approval of the bill can help the country with closing the gender wage gap.

Speaking about parental leave, the country has uniform amount applicable for everyone – 220 000 CZK. Length and division of the benefits is more or less flexible and the decision can be made by each parent. The conditions are that the monthly payments cannot be higher than 11 500 CZK or 70% of the former earnings, taking the lower one, and that it has to be spent within first four years of the child's life. In case parents haven't paid any sickness insurance, these payments are lowered to 7600 CZK for first 9 months and just 3800 CZK for the rest till the fourth birthday of the child. According to OECD data, the paid parental leave, regardless the amount of the payments, is set on 82 weeks (*Figure 8*). It is due to the fact that OECD uses for its computations the highest possible monthly payment, what is more or less equal to the child's second birthday, i.e. together with the maternity leave a bit more than 100 weeks. Before 2008 the parental leave legislation, after initial couple of weeks of maternity leave, was set on 7582 CZK for everyone until the child was four years old.

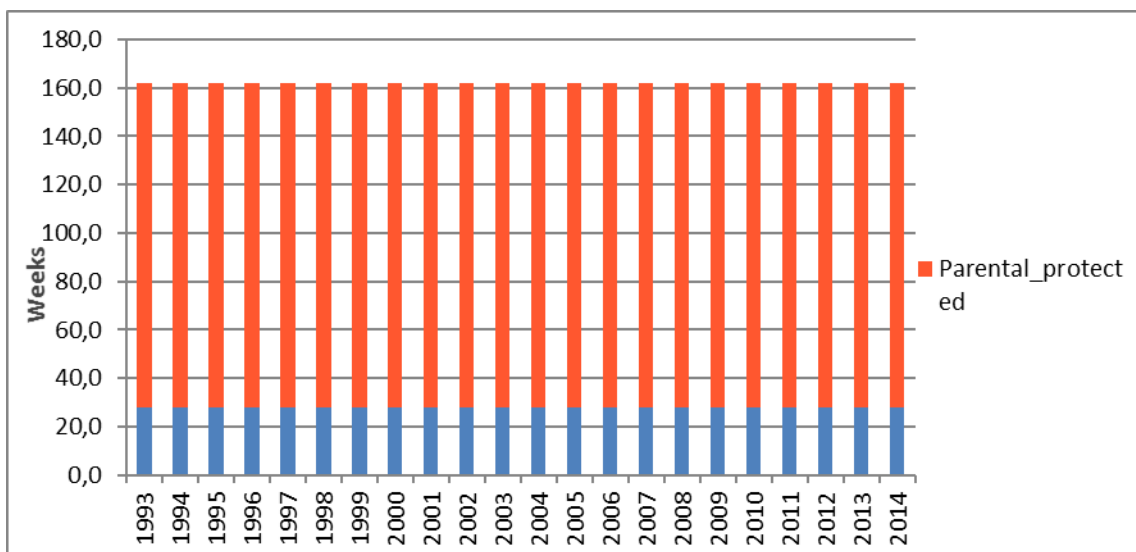
Figure 8: Length of paid leave in the Czech Republic



Source: OECD Family Database, Trends in leave entitlements around childbirth in the Czech Republic

The Czech Republic, former part of Czechoslovakia, was one of the first countries which introduced job-protection during parental leave, by instituting it already in 1964. Now job protection is guaranteed for 134 weeks, when accounting also for the initial maternity leave weeks than it makes 162, what belongs to one of the longest periods in the OECD area. As is visible in the *Figure 9*, the magnitude of 162 weeks exists for the past two decades with no changes.

Figure 9: Length of job protection in the Czech Republic



Source: OECD Family Database, Trends in leave entitlements around childbirth



Low fertility rate of the Czech women along with the high rate of women who are out of labour force due to taking care of child under six years old or incapacitated adult may indicate poor maternity and parental leave conditions and insufficient help with children in case of potential return to work<sup>15</sup> (official website of European Union, 2016).

## **3. Methodology and Data**

### ***3.1 Methodology***

The most appropriate way to examine the effect of parental leave legislations on the labour market should be by taking into consideration different countries and so to have a sample of various legislative approaches and market situations. This can leave us in better position than for example just looking at one specific country.

What may cause problem is that each country may be affected by unobserved factors that with high probability could be correlated with our explanatory variables, such as the parental leave legislation. These can be for example cultural norms or different religious views, which influence how the country makes its decisions about policies. To get rid of the endogeneity issue, we are considering fixed effects model as the most optimal and eligible choice for our analysis. As a consequence, panel of countries is used, more specifically speaking, OECD countries, which may provide a satisfactory sample of data.

For the unobservables which are constant over time and represent unobserved country heterogeneity, we will use fixed effects variable and for the time varying factors the suitable proxy variables will be introduced, as there is no exact indicator of such variations.

An empirical model used in my thesis is based on previous studies with similar focus, where the effect of the length of the paid parental leave legislation on the situation on labour market is examined.

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<sup>15</sup> Fertility rate is according to latest Eurostat data 1,53 children per woman in 2014 in comparison to 1,58 as EU average. The other measure is 25,4% to 15,1% in whole EU.

Namely OECD study, which develops its research on thoughts and methods proposed by Ruhm in his “The economic consequences of parental leave mandates” (1998), uses two-step econometric analysis. At first gender-specific fixed effect models are estimated and afterwards the gap between them is calculated as their difference (Thévenon, Solaz, 2013).

Nevertheless my approach is different in the dependent variable and therefore also in further usage of the model. In the application of the original model effects on three different outcomes were examined - employment-to-population ratios, average working hours and hourly wage rates for both men and women. I decided to explore the effect on gender wage gap, what obviously, is not gender-specific. Consequently there is no need for differencing and so the second part of the estimation suggested by Ruhm is skipped.

Gender wage gap in country  $j$  and year  $t$  would be then modelled as:

$$(1) Y_{jt} = aC_j + bT_t + c(C_j \times T_t) + dL_{jt} + e_{jt},$$

where  $C_j$  are fixed country effects, which are unobservable, but estimated by fixed effects model,

$T_t$  denotes time effect. We would implement year dummies into regression to control for changes lead by time.

$L_{jt}$  measures weeks of paid/protected parental leave

and  $e_{jt}$  stands for independently identically distributed error term.

Interaction  $C_j \times T_t$  represents time-varying country effects.

Estimate of  $d$  is the key goal of my analysis, picturing the effect of length of leave on wage gap.

As time-varying country effects are not really measurable, the best way to account for them, is to include into the regression country-specific linear time trends. It is mainly due to the possibility of creating a bias as was mentioned before, since these may be correlated with changes in leave duration. The other factor, which should be captured as a possible time changing country determinant, is GDP. According to OECD report I am using year-to-year change in the log of GDP per capita (Thévenon, Solaz, 2013).

Considering the fact that there might be differences in whether parents react rather to the length of paid or protected leave, I am providing both cases, as is suggested in *Data* section.

As was expressed in OECD study (2013), the effect of the leave could have a delayed effect on our dependent variable. It is somehow intuitive view – many economic implementations set up today have results in the future. This is typical for social sciences. It takes some time till population reacts and until also labour market records changes. New parental leave legislation should be perfect example of this lagging. Parents, especially mothers, may not be aware of new changes from the beginning, the information about changes is perhaps not so visible in media or transparent and as well not everyone follows legislation changes on regular basis if ever. The thing may also be that how they decide now will affect their wages in the future, when they return to work. They might lose their skills for instance and consequently be rewarded with lower salary. Therefore it would be logical to include into my analysis also a model with long-term effects of legislation. Unfortunately, it is not really possible and results would not be very meaningful and relevant in case of my data, since I have quite narrow time period.

Moreover, we cannot claim that the leave length has linear effect on the gender wage gap until we control also for the quadratic function of the length as it may have a diminishing effect on regressand. Conclusions also from this approach are expressed in *Results*.

### **3.2 Data**

I perform my analysis on OECD country level. The reason is that I would like to have quite wide sample of countries with accessible data for my study. These are provided in the OECD database.

The most important explanatory variable is associated with parental leave legislations across the OECD countries. Information about the length of parental leave has been found in OECD Family Database as *Trends in leave entitlements around childbirth*. From several available statistics *total weeks paid* including maternity, parental and homecare payments and *total weeks protected* available to mothers, again as the whole period within which the woman's job is hold for her accounting also for the

initial weeks of maternity leave, will be used. They could be considered as convenient determinants of different policies as well as the decisive factor of women's leave choices. Although it may be reasonable to go further and consider also, for instance, the amount of payments during leave or alternatives to leave like legislative childcare, this will not be a subject of my thesis study. For paid leave in case of France, where total weeks paid are prolonged from the second child, we account just for the case of the first child.

Both cases of leave entitlements are examined as we are curious about whether women are more sensitive to the first aspect or the other one. Namely some researches suggest that job protection could be more relevant for parents than financial incentives. Further, the aspect of job protection might be more straightforward variable as the amount of payments during leave may vary among individuals within one country and the rules assigning parental benefits to individuals might differ across countries.

GDP growth, more specifically year-to-year change in log of GDP, stands for time varying country effects, as is explained in *Methodology*. Relative percentage change in log of GDP is calculated as

$$(2) \frac{\log GDP_t - \log GDP_{t-1}}{\log GDP_{t-1}} \times 100$$

Statistics for GDP per capita can be found in OECD statistics for Productivity. Data are per head of population in USD constant prices of 2010 PPPs.

As the dependent variable I have chosen the country-year-specific gender wage gap, provided by the OECD as one of their indicators of Earnings and wages performance, calculated from the OECD Earnings data of decile ratios. It is defined as difference between median earnings of men and women relative to median earnings of men. Gross earnings of full-time employees and self-employed are taken into consideration. Indicator is calculated on annual basis. These data are collected for each OECD country, however not for same years or periods. To have at least some consequent and reasonable period of years of balanced data to be able to raise valuable conclusions, we have to shrink number of countries. After proper examination of the data I decided not to look further apart than 2005, as just few legislative changes were

implemented in the early 2000s. Moreover the number of countries would be too low in case of taking more years. Gender wage gap data are calculated till 2014, however just few countries have this year's indicator. To deal with the newest data and so to have most up-to-date, recent and relevant results and conclusions, I did not go beyond the year 2012. After all this, the most appropriate way was to take into consideration either 2005-2013 data accessible for 19 countries or 2005-2012 for 23 different OECD countries. This would provide us with reasonable although not so extensive number of observations with typical panel data structure of small time series dimension T and relatively large number of cross-sectional observations within one year - N. Decision was then made by looking at summary statistics for leave entitlements of these two datasets, which are for 19 countries displayed in the *Table 1* and for 23 in *Table 2* below.

*Table 1: Summary statistics of parental leave variables for 2005-2013 dataset in 19 OECD countries*

Variable	Observations	Mean	Stand. Deviation	Min	Max
<b>tprotected</b>	171	80,03733	52,3256	12	164
<b>tpaid</b>	171	66,50968	57,95569	0	214

*Table 2: Summary statistics of parental leave variables for 2005-2012 dataset in 23 OECD countries*

Variable	Observations	Mean	Stand. Deviation	Min	Max
<b>tprotected</b>	184	87,01151	54,10225	12	180
<b>tpaid</b>	184	61,07006	55,15942	0	214

More varying dataset could provide more convincing interpretation of the impact of leave duration on the wage gap. Standard deviations, which should denote the spread of data around its mean, show that according to *tprotected* (total weeks of the job-protected leave) more-countries dataset provides wider range of values, whereas for *tpaid* (total weeks of the paid leave) it is *vice versa*. Therefore it could be useful to provide regressions for both datasets and then compare the findings.

The 2005-2013 dataset altogether consists therefore of 171 observations and 2005-2012 of 184, what may be considered as satisfactory large amount for conclusive analysis.

What might cause some problems in interpreting the results is that we account for all moneymaking people regardless their age. This may be tricky as people in higher age, as well as in lower age, are not usually users of any or occasionally just some parental leave and so might not be useful source for this kind of research. As data divided by age are not available, hopefully this would not create significant interpretation problem.

### **3.3 Results**

My empirical analysis begins with different regression models and their evaluation so that I can choose the final model, which provides conclusive results and I would consider as the most relevant.

The OECD study (2013) analysing the relationship between parental leave mandates and employment rates or wages of men and women proposes using dependent variable in logarithmic form, however log-level model is more applicable in their case as their dependent variables are not measured in percentages. Even gender wage gap is in their case reported as difference between female and male average earnings, while I am using the gender wage gap already as a percentage difference of earnings between genders. Thus, my data structure does not fit the log-level relationship. In what follows I continue with level-level models.

First of all, I use the length of paid maternity and parental leave all together as my explanatory variable and try to evaluate its effect on pay gap. Beginning with 2005-2013 dataset, as explained in the *Data* section this dataset provides wider variation in total weeks of paid leave, I attach unrestricted as well as several nested model's evaluations in *Table 3* below. After providing the regression with full set of explanatory variables, where my key one – the length of paid leave – comes out as insignificant, I test for joint significance of year dummies. Because it results in F statistics of 0.85, what is far below the critical value for even 10% significance level, I decided to exclude year dummy variables from the following models. However, even this does not make results for the key independent variable way much better. The lowest p-value is

observed in the most restricted model with only total weeks of paid leave as regressor. Nevertheless, it appears to be still strongly insignificant and even the reported R-squared is very low, so the exclusion of my other independent variables worsens explanatory strength of the model largely.

*Table 3: Fixed effects: Estimated Coefficients of the Outcome "WageGap" and their Standard Errors, using length of paid leave and 2005-2013 database*

	(1)	(2)	(3)	(4)	(5)
Length of paid leave	-0.002	-0.002	0.005	-0.003	0.007
	(0.010)	(0.010)	(0.011)	(0.010)	(0.011)
Time trend	0.574	-0.367***	-	-0.352***	-
	(0.589)	(0.057)	-	(0.054)	-
Year 2011	0.782	-	-	-	-
	(1.026)	-	-	-	-
Year 2010	1.993	-	-	-	-
	(1.571)	-	-	-	-
Year 2009	2.581	-	-	-	-
	(2.133)	-	-	-	-
Year 2008	4.308	-	-	-	-
	(2.700)	-	-	-	-
Year 2007	5.251	-	-	-	-
	(3.301)	-	-	-	-
Year 2006	6.041	-	-	-	-
	(3.886)	-	-	-	-
Year 2005	7.014	-	-	-	-
	(4.464)	-	-	-	-
Change in GDP	-0.984	-0.499	0.567	-	-
	(0.824)	(0.550)	(0.592)	-	-
Constant	-35.669	48.301***	16.191***	46.994***	16.139
	(52.750)	(5.003)	(0.737)	(4.789)	(0.735)
Within R-squared	0.257	0.226	0.009	0.221	0.003

*Notes: n=171. Standard errors in parentheses. \* significance at 10% level, \*\* significance at 5% level, \*\*\* significance at 1% level.*

*Source: Stata*

What may be additionally examined is, as proposed in the *Methodology* part, whether the length of paid leave has perhaps a nonlinear effect on the gender wage gap. This approach is suggested also by the OECD report (Thévenon, Solaz 2013). The

closest-to-significance results of the length of paid maternity and parental leave when this variable is included also in its squared form are reported in *Table 4*. Still holds that none of the regressions run with the total weeks of paid leave gives us significant results for this variable. This might be caused by the fact that taking each week of paid leave as equally relevant is a little bit misleading. As it was already mentioned before, the amount of parental allowance changes during the leave in the majority of countries. It is the highest at the beginning, during maternity leave and sometimes first couple of weeks of parental leave, and usually lower towards the end. Benefits provided at the end in most cases cannot be taken as something what may motivate women, especially those who are better-paid, to stay out of the job. On the other hand, those who earn far less can see long-term paid leave as attractive and their exclusion from calculation of average or median wages increases this amount. They may also want to change their working time from full-time to part-time or other supplemented forms of work and again immediately not to be included in wage gap computations. Or they do not continue working at all. So the longer paid leave may exclude lower-paid women from full-time employment, but encourage better-paid not to spend too much time on the leave or not to have kids at all. Even that the regression does not suggest significance of the length of paid leave for squared function, it is among all its regressions the closest to it, what may indicate that the hypothesis that the longer paid leave lowers the wage gap is correct from 105 weeks further, when the relationship reverses from positive sign to negative. Still, I believe this is not due to the positive influence of its duration, but through poor motivation for women with higher income to take longer leave while the effect on women with worse occupations is the opposite. Long paid leave indeed may have negative influence on decision of having children for parents who earn a lot. The results show that for the first circa two years the paid leave widens the wage gap and just after reaching this peak, it starts to decrease it.



*Table 4: Fixed effects: Estimated Coefficients of the Outcome "WageGap" and their Standard Errors, using squared function of tpaid and 2005-2013 database*

	Coefficient	Standard Error	P-value
Length of paid leave	0.042	0.032	0.196
Length of paid leave squared	-0.0002	0.0001	0.151
Time trend	-0.378	0.057	0.000
Constant	47.582	4.789	0.000

*Notes: n = 171. Within R-squared = 0.2327*

*Source: Stata*

For 2005-2012 sample I use total length of job-protection guaranteed during maternity and parental leave as my main control variable. *Table 5* shows estimation results for five different specifications. Again, after running the first one, the null hypothesis under which coefficients of year dummies are zero, cannot be rejected. Of course the R-squared gets lower and lower when we omit more and more predictor variables, but it may be reasonable to exclude insignificant variables in order to simplify the model. From the other point of view, we lose the control over time changes. When removing year dummies from my models, time trend becomes significant, what indicates its relevance and so it should be controlled. According to the fact that this model shows significance for total weeks of job-protection and consequently some relevant relationship between parental leave legislations and gender wage gap, controlling for effects of years and country effects may be needed and worth providing. Therefore I report output for unrestricted and several restricted models.

All the regressions show negative relationship between total weeks of protected leave and gender wage gap. This *ceteris paribus* effect is not really surprising. We expect more weeks of job-protection to contribute to diminishing wage inequity. Intuitive explanation is that women who have really good jobs welcome this benefit and employers protect their highly-skilled work force, so they are willing to return to the same position after the leave. Loss of high-quality human capital is more costly than providing long-term job-protection. On contrary to this, women who work in worse positions are not probably affected by this benefit very much. Finding similarly paid job is not as difficult as in case of the first group or their preferences about career and personal life quite often change after the first birth giving. Either they become

housewives or start working on part-time position, what, as was written before, excludes them in our case from gender wage gap calculations.

*Table 5: Fixed effects: Estimated Coefficients of the Outcome "WageGap" and their Standard Errors, using the length of job-protected leave and 2005-2012 database*

	(1)	(2)	(3)	(4)	(5)	(6)
Length of job-protected leave	-0.082**	-0.063*	-0.073*	-0.125***	-0.058	-0.127***
	(0.039)	(0.037)	(0.038)	(0.041)	(0.037)	(0.039)
Time trend	-0.186	-	-0.388***	-	-0.360***	-
	(0.507)	-	(0.059)	-	(0.057)	-
Year 2010	0.161	0.274	-	-	-	-
	(0.864)	(0.433)	-	-	-	-
Year 2009	-0.146	0.918**	-	-	-	-
	(1.440)	(0.433)	-	-	-	-
Year 2008	1.180	1.891***	-	-	-	-
	(1.833)	(0.433)	-	-	-	-
Year 2007	1.143	1.697***	-	-	-	-
	(2.298)	(0.442)	-	-	-	-
Year 2006	1.099	1.805***	-	-	-	-
	(2.794)	(0.442)	-	-	-	-
Year 2005	1.246	2.255***	-	-	-	-
	(3.305)	(0.445)	-	-	-	-
Change in GDP	-1.359*	-	-0.842*	0.097	-	-
	(0.775)	-	(0.504)	(0.544)	-	-
Constant	39.752	20.317***	58.276***	26.787***	54.300***	27.000***
	(48.650)	(3.284)	(5.777)	(3.623)	(5.293)	(3.409)
Within R-squared	0.286	0.272	0.263	0.062	0.250	0.062

*Notes: n = 184. Standard errors in parentheses. \* significance at 10% level, \*\* significance at 5% level, \*\*\* significance at 1% level.*

*Source: Stata*

Quadratic form of my key variable results in several strongly insignificant measures and models with quite poor informative value. Nevertheless I would like to make a short comment on one of them with the significant result for the length of job-protected leave, but large p-value for its quadratic term. What I consider to be interesting is that it supports the outcome that longer protected leave helps to improve pay equity. It is true that quadratic term has positive coefficient next to itself, however its magnitude is so tiny that the turning point when job-protection would cause widening of gender wage gap is around 273 weeks. This long leave does not appear in any of the OECD countries. So we can say that we observe decreasing relationship with gradually reduced slope.

*Table 6: Fixed effects: Estimated Coefficients of the Outcome "WageGap" and their Standard Errors, using squared function of the length of job-protected leave and 2005-2012 database*

	Coefficient	Standard Error	P-value
Length of job-protected leave	-0.164	(0.084)	0.054
Length of job-protected leave squared	0.0003	(0.001)	0.626
Constant	27.256	(3.456)	0.000

*Notes: n = 184. Within R-squared = 0.0635*

*Source: Stata*

We can conclude that parents obviously really do respond to the length of job-protection positively or that women find better labour market position in countries with longer job-protected leave. However, we are not able to say that its effect is stronger than in case of the length of paid leave, as the relationships between the paid leave and wage gap are not significant and so provide just some intuition about the direction of this relationship.

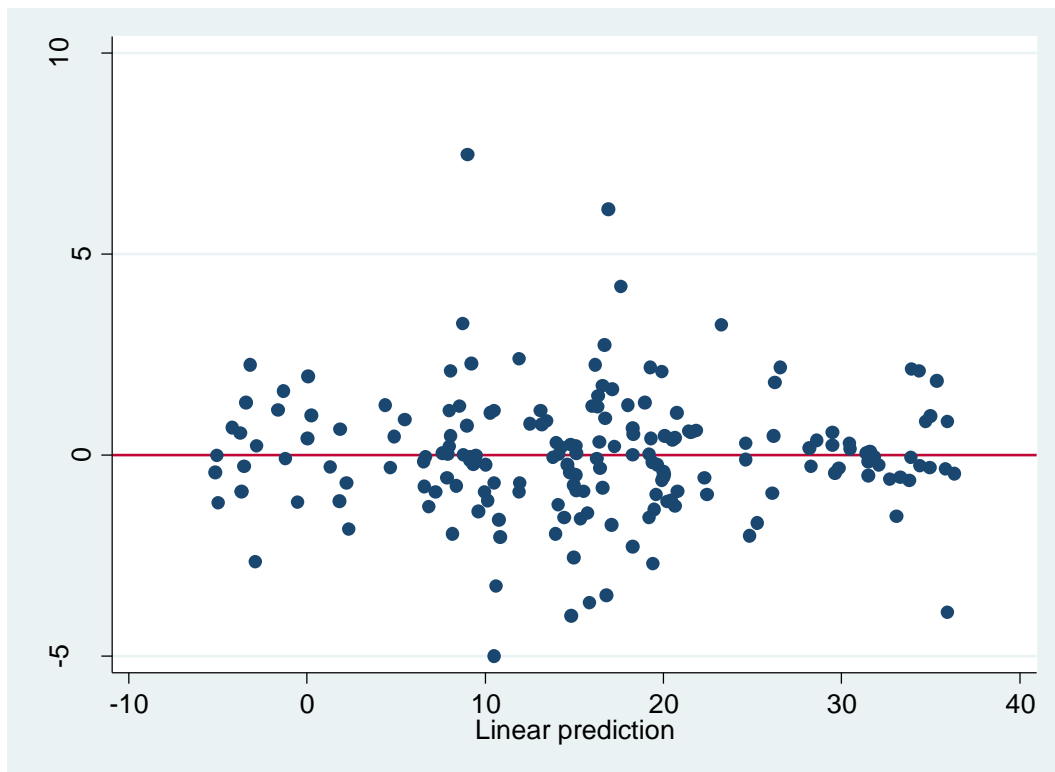
### **3.3.1 Choosing the final model**

Among all the provided models, I decide to choose the first one reported in the *Table 5*. As all the regressions run with the total weeks of paid leave end with insignificance, I focus on the job-protection. Several reported an importance of this

factor, however I still believe that controlling for the time and country effects is essential and their econometric insignificance cannot be taken as a reason to exclude them from model. Mainly due to their economic importance as we assume they do affect the leave legislations. This approach is also used in the OECD report (2013).

R squared for this model is  $0.2861$ , what can be considered as quite satisfactory for longitudinal data. Overall reported F statistics accounts for  $F(9,152) = 6.77$ , what compared to critical value lower than  $2.59$  implies that hypothesis of joint insignificance of all variables is rejected at 1% level of significance. When looking at the residual plot, we can claim that randomness of residuals is satisfied and we do not observe any substantial outliers.

*Figure 10: Scatterplot of residuals versus linear prediction from the fitted model*



*Source: Stata*

The interpretation of the length of job-protected leave as a variable is that holding all the other factors fixed one week increase in job-protection results in decrease of gender wage gap for  $0.08$ . As the data of gender wage gap are in percentages, this decrease is also percentage. It is quite nonsense that according to my data this lowering should be endless. However, we may additionally have a quick look at the model with quadratic function of total weeks of job protection, which is not

significant for the length of job-protected leave and its squared term separately, although still jointly significant on 1% significance level. This can be good lead towards the claim that there is some turning point, from which this positive effect on earnings inequity terminates. Of course I do have limited data for just limited number of countries, period of years and quite wide age group, which provide just general look at this issue. From this point of view we can however still see the strong relevance of job-protection for parents. It could be interesting to examine this topic further, by obtaining data for more countries and for perhaps more specific age group, but the data collection might be difficult to obtain and as in my case, this set the boundaries for the analysis. Although we can definitely argue that the age range when people have kids is still more and more unspecific and hardly to be correctly caught as it differs largely across various groups, regarding their jobs, education, religious and many other aspects.

When evaluating GDP change, we examine also quite expected effect – increase in country's GDP decreases wage inequity. Richer country cares more about their inhabitants, including hopefully also parental leave legislations. Moreover employers provide better benefits for their employees who are about to have a child.

## 4. Conclusion

How do maternity and parental leave legislations influence gender wage gap if at all? Well, when looking at the duration of paid leave, the answer is not so straightforward. Actually we are not able to support our claims by the analysis in this case, although the research gives us at least some general intuition that for the long enough paid leave, the gender wage gap decreases with widening influence on wage inequity during first two years and opposite afterwards. However, as I claim in *Results* section, this is from my point of view not because very long paid leave legislations are something what helps women in trade-off between career and family life, but rather the differences in decision-making of lower and higher-paid women in how long to stay at home with a child.

Speaking about the job-protected leave, we can report results from our regressions, which resulted in significance of this factor. The thing is that each additional week of job-protected leave contributes to lowering of the wage gap by cca 0.08%. Job protection is benefit which is most probably more attractive for better-paid

population and in order not to lose valuable human capital, employers may be willing to hold positions for their employees for longer period. Well-qualified female employees are then more encouraged to return to their previous work place.

Is job protection for new parents more interesting than leave allowance? According to our data analysis we are not able to respond to this question fully. We did find out importance of holding the job by employers, however we are left just with some intuitive results concerning the paid leave legislations. From my point of view, both can be considered to have an impact on mothers, however not of the same features. Allowance could be more appealing for women in lower-paid jobs, while job protection for those in better-paid ones.

Is there any optimal length of parental leave? Not quite. What we can bring from our models is that at least for job protection applies that *the longer leave, the better labour market outcome*. Although some suggestions about the turning point appeared, they are far above all the parental leave lengths in OECD.

Are there any other factors affecting the gender wage gap? Yes, we found evidence for country-specific factor – change in GDP. The effect is not really surprising, increase in GDP narrows pay inequity. As the country becomes richer, there are more resources for fight against wage gap. I guess that for more developed countries closing the gender wage gap appears to be more vital than for the developing ones. Developed countries are aware of the fact that paying attention to this issue can contribute to further development and improvement of the economy.

The answers to my research questions were found, although we have to admit that we hoped to collect wider range of data at the beginning. It could be definitely interesting to study the relationship between parental leave legislation and gender wage gap for maybe more specific age group or for even more countries.

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