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ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS

DEPARTMENT OF INTERNATIONAL AND EUROPEAN ECONOMIC STUDIES

MASTER THESIS

GENDER DISCRIMINATION IN THE LABOR MARKET:
CAUSES ECONOMIC ANALYSIS AND PROSPECTS

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Στους γονείς μου, Νικόλαο και Θεοδώρα!

Abstract

Discriminations in the labor market are not something new in the world of labor. Many different forms and different causes have led to either the exclusion of many groups of people; or pay gap between workers with the same qualifications. This project will outline how discriminations deprive society of its economic welfare leaving both the society and the employers bereft of profits in the 21st century, in a world of constant change -the world of labor. This project emphasizes the gender discrimination in the labor market. The discrimination in forms of labor market exclusion and gander pay gap will be examined. In the first chapter, there is a general introduction of a short historical overview of discriminations. In this section, there is also a reference to the main causes of discrimination between the two sexes. Here; the goal is to familiarize the reader with the subject. In the second chapter, there is a detailed reference to the theories of discrimination with the most important of them being Becker's and Phelps theories. These theories aim to highlight the issue and try to explain the reasons for discrimination and pay differentials at workplace between women and men. In the third chapter the role of human capital in the gender discrimination is analyzed. Human capital is one of the most crucial factors that contribute to gender discrimination, as it explains why a man and a woman with the same characteristics are paid different wages for the same kind of work. To continue, in the section of empirical evidence, diagrams and tables from Eurostat and other reliable sources are used to explain and show the situation in Europe, US, Greece and generally in developing and developed countries and conclude that gender discrimination exists and it is a common phenomenon in the world of labor. The next section is the institutional framework section. Here social and legal dimensions of the problem are to be presented. This chapter focuses on what has been done and what remains to be done to eliminate this phenomenon. To the next chapter, the example of Greece is showcased focusing on Greece's efforts and their results in discrimination field. In the final chapter, conclusions are drawn, stating that governments, societies, and many independent groups and NGO's have seen to the problem and have achieved great results. Maybe the problem remains, but there are many programs still running and in the future the situation may be better than it is today. Besides, a normal percentage of discrimination is essential to exist as to ensure balance in society. All data and sources that are used are from scientific writings and projects conducted by economic and social scientists who have worked on the issue called discrimination in the past years. Yet, there are occasions especially in the conclusions, where the writer's personal viewpoint over the subject is mentioned.

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Key words: discrimination, gender, female, human capital, wage, differentials.

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1. Introduction

The issue of discrimination in modern economic theory is considered to be one of the most serious problems and has been the subject of study by many economists from many different schools of economic thought. Very often, in the labor market of many European and non-European countries, there is a phenomenon where workers with the same characteristics (same education, experience, ability and productivity) receive a different pay. Different pays for people with equal productivity make their appearance, especially when it comes to people of different gender (as it will be discussed later), different color, e.g. white black, of different nationality e.g. legal and illegal migrants. Discrimination does not just come in the form of different pay. In many cases, it will lead to the exclusion of specific groups and minorities -disabled people, elderly people, people of different religions, gipsy people, people of different sexual preferences- from the labor market.

It goes without saying that there is relevant legislation at national and European level fighting discrimination. Concerning equal treatment of men and women, a total of 13 laws have been adopted by the EU since the 1970s to ensure that women and men receive equal treatment in their workplace. As the Eurostat data suggest, the laws on equal rights between women and men included in 2000 new EU legislation prohibit discrimination in other cases apart from gender as well. According to these new laws, it is considered illegal to discriminate one person based on its racial, ethnic origin belief, disability, sex or age. To close the introduction it is worth saying that based on what Dracopoulos and Theodorou said discrimination in economic terms depends on the economic activity itself, the economic sector and the experience of a worker since they are regarded as variables that suggest one aspect of why there is difference in male / female earnings. However, the other aspect concerns the fact that different treatment at workplace can be attributed to the gender itself.

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1.1 Historical overview of theories of discrimination

As Dracopoulos and Theodorou (2006) point out, the subject of discrimination is not new in the economic world. The history of discrimination has begun since the mid-19th century with several liberal views on gender discrimination. The basic idea was that the two sexes are equal except maybe in terms their muscular power. Thus, since nature did not make men and women equal, law was not obliged to equalize them through the adoption of rules and laws. A striking example of this concept is the fact that several writers believed that the woman should be dependent on man as much as the man depends on the woman, unless their relationship is such which forces the one to depend more on the other (John Stuart Mill and Harriet Taylor Mill in Rossi, 1970).

However, the situation has changed radically in the early 20th century. According to many economists and other social scientists (Webb.S, Rathbone, Cannan and many others) the views on discrimination were not so in favor of women. The already existed scientific literature based on the elimination of inequalities between the two sexes was considered rather paradoxical. The pre-neoclassical discussions on women's lower position in the labor market focused mainly on wage differentials. The discussions above explain the lower pay for women based on the customs that prevailed in every society at that time; Men were responsible to support the family, so they had an advantage over women on the labor market., whereas women “had to” stay at home and deal with their children’s upbringing and household chores. The argument above is enhanced by the fact that women were also associated with low productivity, with no involvement in trade unions, as well as with a limited education.

Edgeworth (1922) and Fawcett (1918), were the first to introduce the concept of women's 'crowding effect' into the labor market. According to this theory, women are busy in specific jobs and this results in women’s lower wages. In connection with the above, gender pay discrimination was also justified by the fact that women were occupied with the family, child- rearing and the household for several hours on a daily basis. Consequently, engaging them with home production results in their physical fatigue, with their consequent reduced productivity compared to that of men. In addition, men deny working with -or under the guidance of- women. This refusal according to Florence (1931) plays a catalytic role in the existence of a wage gap. Pigou (1952), in turn, claims that "unconscious and reckless" employers pay women less than they really deserve because the latter do not exploit their so-called “monopsonic”[1] power to demand higher wages.

[1] Pigou is referred on “trade unions" of workers who will increase their minimum wage will simultaneously increase their level of employment (monopsonic sample labor market).

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In the pre-Becker era, the international literature and writing was mainly based on two Bronfenbrenner (1939, 1956) scientific papers, which examined whether the presence of workers' unions and monopsonists is affecting the labor market as the main sources of wage differences. According to this approach, employers offered low wages to the discriminated group on the grounds that it would have high costs due to the coexistence of a majority and a minority in the same workplace. This is a very interesting theory, mainly for two reasons: firstly because we conclude that although the cost of an employer is increasing by giving employment to a heterogeneous group of workers, heterogeneity in itself increases the employers' power of negotiation and reduces the risk of strikes and turmoil on the part of the employee, following the tactics of "divide and reign"; and secondly Bronfenbrenner's theory was the "forerunner" in Becker's theory (which will be looked at in the next section) who claimed that the employer would hire workers from the minority group only when they agreed to be paid wages lower than those of the majority.

1.2 Forms of Discrimination

Apart from gender discrimination, there are other important forms of this phenomenon, in the labor market. Although these extra forms play a catalytic role in the labor working environment, they will be briefly mentioned, as they do not comprise a part of this project. The main forms of discrimination are as follows:

a) Disability Discrimination

There is no surprise that this minority is discriminated in the labor market. Although there are many laws in the developed countries that protect this minority group and helps them find employment and protects their working relationship, the working environment is inaccessible to them. The main reasons for this include the employers' attitude, prejudices, phobias, and the incomplete state mechanism. To illustrate my point, the following diagram from Melanie Jones's paper describes the disability employment gaps between people reporting a type of disability and those who do not.

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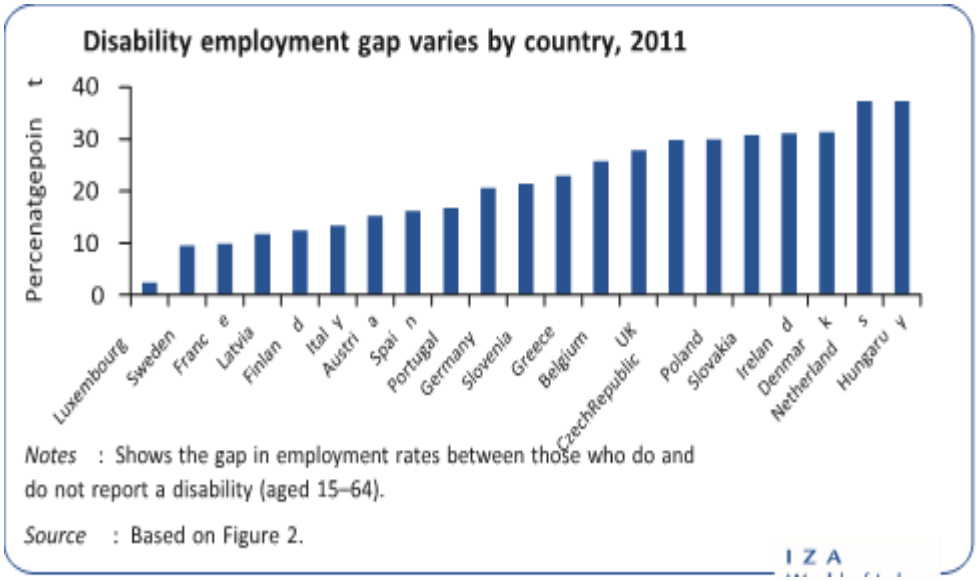

Figure 1- Disability employment gap in EU countries, 2011. Source: Disability and labor market outcomes IZA world of labor 2016:253.

In other words, a Dutch citizen who does not qualify as a disabled person is almost 40% more likely to find work than a Dutch citizen who is suffering from a particular form of disability.

b) Age Discrimination

This category includes people aged over 50, and young people that struggle in entering the labor market. These people while having a wide range of interests and skills face problems of joining and staying on the labor market as victims of certain stereotypical hypotheses regarding their nature and abilities. Age discrimination is experienced through different treatment, deprivation of rights or opportunities, or the use of stereotyped images of individuals based on their chronological age. Older people are less likely to understand changes in the production process, making it difficult to adapt to different patterns of work that overturn old labor market equilibria. Nonetheless, young workers also appear to face discrimination in their workplaces. There are many times, when unjustified discrimination against them deprives them of the possibility of finding employment opportunities. It is a great irony that, while the population of Europe (and Greece) is getting older and older, young people who are vital capital face difficulties in finding and maintaining a decent job.

c) Discrimination due to religious beliefs

This is a very interesting form of discrimination due to its nature itself. It is widely known that religious beliefs tend to play a crucial role in the labor market as we have many examples of "extreme" types of religions which can turn individuals against their compatriots and moderate fellow adherents ("Religion, Discrimination and Trust", Swee Hoon Chuah, Simon Gächter, Robert Hoffmann, Jonathan H. W. Tan, IZA DP No. 9616 p. 2). According to international bibliography and references, it seems that there is no discrimination in terms of different wages but only in terms of cooperation. A matter of great controversy is at present the issue of cooperation between employees of different religions. For this reason, there has been one laboratory experiment conducted with student participants from different cross-cutting ethnic and religious groups. The result was that participants tended to cooperate relatively more effectively within their own religious groups because religion reinforced their cooperation further. When they had to work with participants of other religions; although they cooperated it was not to the same extend.

d) Racial Discrimination

According to a recent research conducted by Simonetta Longhi from Reading University of UK, in most of the developed countries, there is wage gap between ethnic minorities and the native majority. A closer look shows that wage differentials continue to second generation minorities. This type of inequality leads to talent waste as minority workers cannot reach their full potential of skills and qualifications. Therefore, eliminating racial wage differentials between citizens with different ethnic backgrounds must be a social policy goal (Simonetta Longhi, 2017, "Racial wage differentials in developed countries") To elaborate on that, let as see what the following diagram shows:

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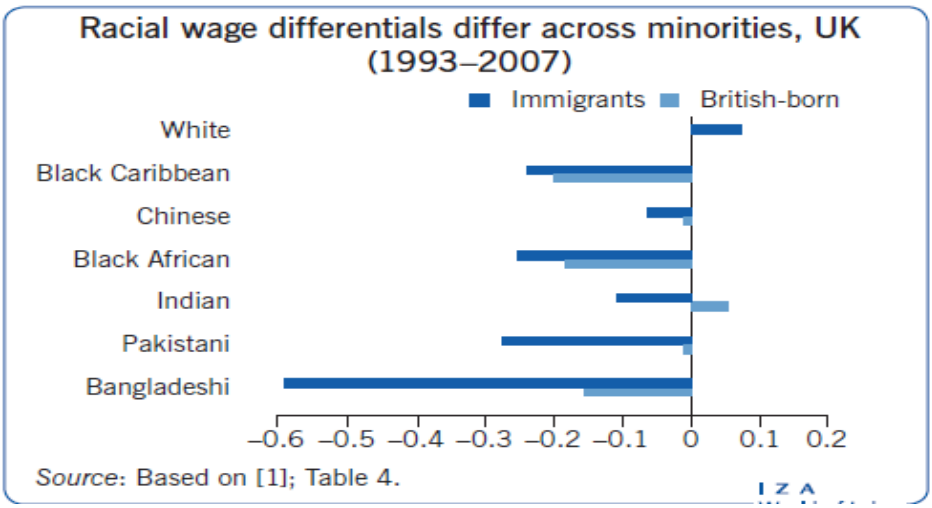

Figure 2- Racial wage differentials across minorities in UK, 1993-2007. Source: Racial wage differentials in developed countries, Simonetta Longhi, IZA world of labor 2017: 365.

The chart depicts the racial wage differentials across minorities in UK in the period of 1993-2007. Interest in this research is that it focuses not only on wage differences between English and, for example, Pakistan citizens, but it goes deeper and focuses on the minorities themselves, as it examines a Pakistan first-generation immigrant with a second-generation Pakistan immigrant born in England. In both cases, of course, the result is the same, but it varies on a different scale. We note that minorities are actually paid a much lower hourly rate than the "Caucasian" English. The interesting part, however, is that second-generation migrants are less rewarded than British citizens, but not to the extent that first-generation immigrants are rewarded. A first-generation migrant from Bangladesh will receive a much lower salary than an English citizen. A second-generation migrant from Bangladesh, however, will receive a much higher salary than the first-generation migrant. Nevertheless, both wages will be lower than that of an English worker.

e) Sexual Discrimination

According to Drydakis' project about sexual discrimination in the labor market; Even though there have been many legal changes applied for this minority, yet there is still a trend for social inequality. According to many scientific studies, there are professional norms which state that sexual orientation and professionalism are opposites. As a consequence, some employees are restrained from applying for specific positions such as law

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enforcement, armed forces etc. (Nick, Drydakis, 2014, "Sexual orientation and labor market outcomes")

The diagram below shows us the average earnings for gay men and lesbian women. The results are ambiguous here. Gay men seem to earn 9% less that straight men indeed. Yet, lesbians face a positive discrimination comparing to heterosexual women by earning 12% more wage. We conclude that although this minority seems to complain about discrimination, in practice the situation is not so bad. Indisputably, we need more evidence to extract clear results, but this is not part of this project.

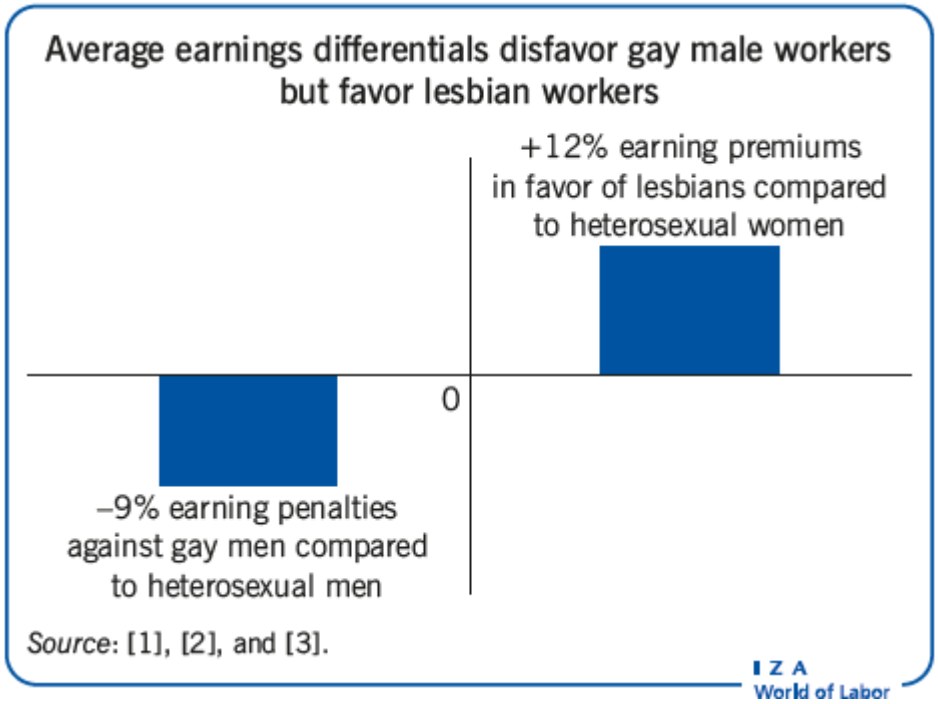

Figure 3- Average earnings differentials for homosexual workers. Source: Sexual orientation and labor market outcomes. Nick Drydakis, IZA world of labor 2014: 111.

1.3 Main causes of discrimination between the two genders

In this sub-section we will see the main causes of discrimination against women. The data comes from a bibliographic review of Drakopoulos and Theodosiou in their research "Gender discrimination in the labor market a theoretical and bibliographic overview".

a) The central administration, which may, by various decrees and resolutions, restrict the employment in many social groups in specific professions. This is illustrated by the

exclusion of blacks from jobs in the United States as well as the ban on working married women in some public services in Great Britain.

b) Wage rigidity. If wage differentials are forbidden by the adoption of laws requiring the payment of a minimum wage regardless of gender or nationality, there is no doubt that there will be underemployment in sectors where discriminate prevails. The consequence of the latter would be to offer low wages not only in these sectors but in various sectors alike.

c) Akerlof (2003) states that the source of discrimination is adherent to social habits and customs. Thus, some people's opposition to the general rule can be economically profitable. But that does not mean that it only has advantages.

d) The incomplete information. In this case we have to deal not only with the training the employer wishes to offer his employees, but also with the time required for this investment to make profits. In other words, the longer the depreciation period, the more profitable the human capital is. And that is the point here. Women's working life is "de facto" limited due to birth and child-rearing. Thus, women will not be hired in specific jobs. Men, on the other hand, will (Borjas 2003).

e) The existence of institutional barriers that historically excluded women from specific jobs. The question then arises as to whether the so-called "glass ceiling effect" exists, according to which women are not promoted to senior or senior management positions. An example of this phenomenon is typical of the academic community in the United States. What was observed was that given the work experience, the quality of the doctoral degree, the education, the publications in scientific journals, women economists were less likely to be promoted to the position of associate professor or professor.

f) The so-called sexist discrimination that leads some women to leave the labor market. For example, an investigation by H. Antencol and P. Kuhn (2000) has shown that young women are also reported to be victims of sexist discrimination.

g) Less work experience of women. Mincer and Polachec (1974) attributed most of the wage gap to the increasingly few women's work experience.

h) Considerable empirical evidence indicates a negative relationship between children and women's wages; commonly known as motherhood wage penalty. It is widely known that motherhood may reduce women's productivity in a variety of ways not readily captured in wage analyses (Blau and Kahn, 2017).

i) Women are likely to invest in human capital not based on labor market needs and trends, but on the basis of their personal pleasure. There is no doubt that this has to do with the early educational orientation, and the content of the lessons they choose during their school years (Brown, C., & Corcoran, 1977).

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2. Theoretical approaches of discrimination

In this section the most fundamental theories written for discrimination will be presented and analyzed.

2.1 The Becker theory

One of the most famous theories of discrimination in the labor market; is that of the Chicago economist's Gary Becker in his book economics of discrimination; "Discrimination preference theory". According to this theory, many employers prefer specific employees to others, e.g. white employees may be preferred against non- whites, for a white employer, men would be much easier chosen than women. Consequently, if an employer is biased against the female (colored, muslim, gay) workers, then hiring one of them will reduce his or her benefit/utility. These preferences in the labor market are expressed in wage differentials with the discrimination coefficient. For instance, supposing that an employer wants to hire one more employee, if the employee is a man, then he will pay him W_m. but he won't hire a woman with the same W. Nevertheless, he will accept a woman in his firm but with a lower wage; W_f.

The difference $W_m - W_f$ is essentially the monetary expression of the employer's bias against women (or any other minority group). The percentage difference between the two wages is the coefficient of discrimination **(d)**. To exemplify: d=$\frac{W_m - W_f}{W_f} = \frac{W_m}{W_f}$ -1

We can rewrite the previous equation: $W_m = W_f * (1 + d)$.

It is the coefficient that equals the two wages in the employer's assessment and loyalty system. There is no doubt that, discrimination coefficient differs among employers and can be both positive or negative. If an employer does not discriminate against women, then he will pay the same wage to both genders thus d=0. If the employer discriminates against women d> 0 and if they discriminate against men d<0.

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2.1.1 Discrimination on the demand side; Employer discrimination

There are many types of discrimination under these circumstances, as there are many personal prejudice models. The first one, is the employer discrimination and it is on the demand side. Let's assume that male workers are prejudiced against women. We also take for granted (for simplicity) that female workers have the same characteristics as male. If employers have preferences in hiring only men, even though women have the same characteristics, this will be regarded as discrimination. Based on the assumption above, we come to the conclusion that, the higher the discrimination rate of the employer, the less productivity there will be. (Meimetea, 2008). Let us give a more economic view on this form.

MRP is the marginal revenue of productivity of all workers and "d" is the discrimination coefficient. For the women and minorities, however, equilibrium is achieved only when their wage (W_f) equals their subjective value to firms:

MRP – d = W_f ↔ MRP = W_f + d. What this says algebraically has a very simple economic sense: women have to offer their services for lower wages than men due to the fact that their productivity is devalued by employers.

As for the profits, the diagram below will help extract them:

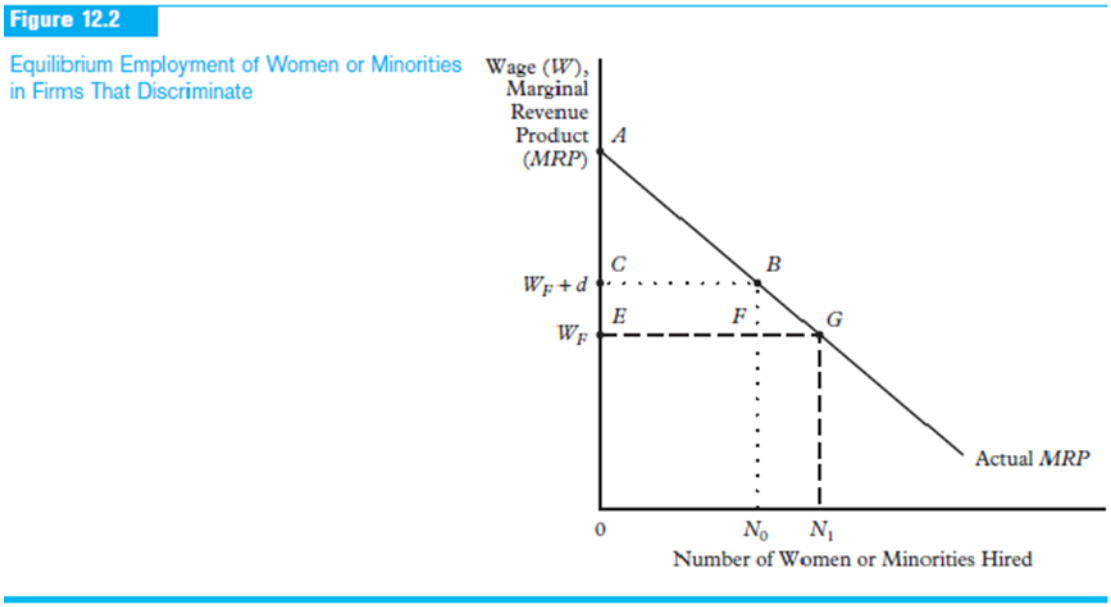

Figure 4- Equilibrium employment for women and other minorities in firms that discriminate. Source: Theories of market discrimination, Modern Labor Economics, Theory and Public Policy,2012, Ronald G. Ehrenberg, Robert S. Smit

The diagram shows the profit of discriminatory and non-discriminatory employer. The discriminatory one will hire N_0 women, for that point where MRP= $W_f + d$. Profit

maximizing employers however will hire N_1 female workers until MRP=W_f. Profits for the discriminatory employer are equal to the area AEFB; whereas profits for the second employer are AEG.

In this case, it is also important to point out the pay gap under the employment discrimination. The gap between W_f and W_m will be analyzed. In order to do this, the following diagram that shows the demand curve for women (and minorities) will be used. This demand is expressed in relative wage rates for men.

Figure 12.3

Market Demand for Women or Minorities as a Function of Relative Wages

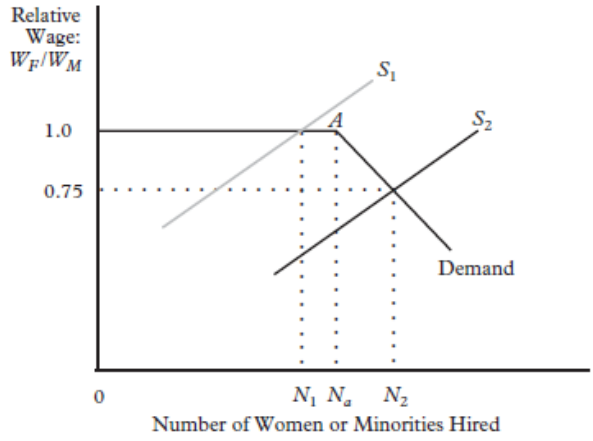

Figure 5- Market demand for women or minorities as a function of relative wages. Source: Theories of market discrimination. Modern Labor Economics, Theory and Public Policy, 2012, Ronald G Ehrenberg, Robert S Smith.

We observe from the diagram that there are employers that are willing to hire women up to N_a, at a relative wage of A where $W_f = W_m$. On the other hand, for the discriminative employers W_f must fall below W_m to induce them to hire female workers. That is the reason why demand curve bends downward at point A. It reflects the difference among employer's preferences. If the supply of women is small (S1); then they will be hired by non- discriminative employers and there will be no wage differential. But if the supply of women is large (S2) then some of these employers will be induced to hire some of them with wage smaller than that of men (0,75 in diagram).

There are two basic factors that can change the market differential between $W_m and\ W_f$. First, an increase in the no discriminative employers would cause the differential wage gap to decrease. Behaviorally, the influx of non- discriminators absorbs more of the supply than before, leaving a smaller number of women who must work under the direction of discriminatory employers. It is an indisputable fact that if discriminative employers were to rise; the wage gap would also rise. That is exactly what the following diagram shows.

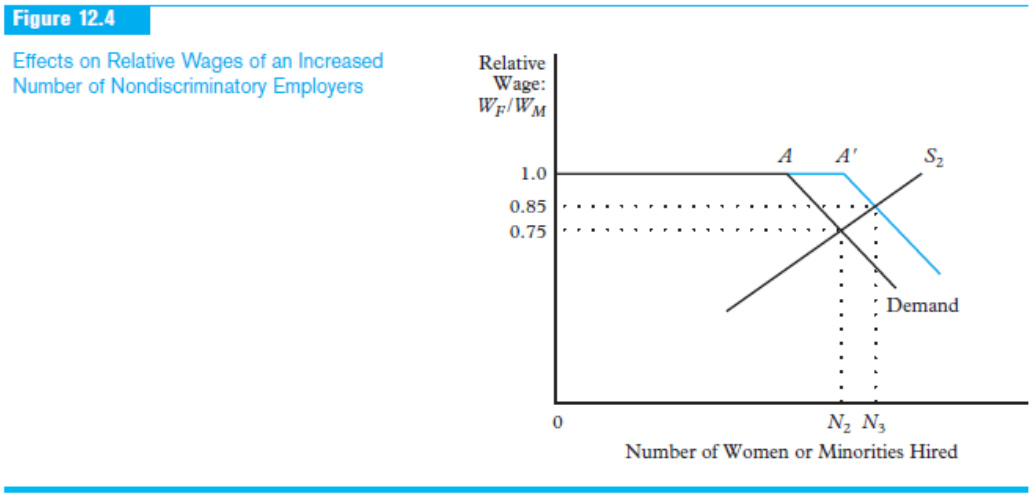

Figure 6- Effects from an increase in the number of nondiscriminatory employers on relative wages. Source: Theories of discrimination, Modern Labor Economics, Theory and Public Policy, 2012, Ronald G. Ehrenberg, Robert S Smith.

The second factor is the rise in W_f $reltive\ to\ W_m$. With the number of the prejudiced employers remaining the same; but their discriminatory preferences would by reduced. It is exactly the same consequence as in the first case.

Last but not least, discrimination on the part of the employer is most likely to persist when owners or managers do not have to maximize profits in order to stay in business. The opportunity to indulge in discriminatory preferences is especially strong among monopolies that face government regulation, because the expense of this wasteful practice make profits look smaller to regulatory bodies. In terms of competition, the other firms would not discriminate against minorities in order to maximize profits, and the firms of discriminative employers would face serious problems that could even exclude them from the labor market (Ronald G. Ehrenberg, Robert S. Smith, 2012).

2.1.2 Discrimination on the demand side; Customer discrimination

The second prejudiced model on the demand side is the customer discrimination. There are many cases in the labor market where customers prefer to be served by special workers e.g. white males. On the other hand, there are many cases where customers may prefer to be served by minorities. For example, if customers have preference for a male pilot, this works as a disadvantage for women. In other words, if women want to find employment in this specific job, they must either accept a lower wage or be more qualified than the average white male, because her marginal revenue productivity to their employers is reduced by customers' prejudices.

This may lead to segregation in occupations with high customer contact. Thus, firms that cater to discriminatory customers will hire only the preferred group of workers, pay higher wages, and charge higher prices than firms that employ workers from disfavored groups and that serve nondiscriminative customers. To continue their discriminatory ways, then, customers must be willing to pay the added costs (Ronald G. Ehrenberg, Robert S. Smith (2012) "Modern Labor Economics, Theory and Public Policy 11th Edition". P. 417).

One of the most obvious cases of customer discrimination is that of the NBA's in 1998. According to the television viewership for basketball games, it was proved that when there was large white players participation, ratings rose. A team's profits depended of course on tv viewership. It is not difficult to understand that the publication of the research caused the increase of the white players MRP.

2.1.3 Discrimination on the supply side; Employee discrimination

The third prejudice model is on the supply side of the market. In this model; male workers may find it difficult to interact with women; as they find it distasteful. For example, they may resist taking orders from a woman or sharing responsibility with a minority member. If male workers, for example, have discriminatory preferences, they will tend to quit or avoid employers who hire and promote on a nondiscriminatory basis. Employers who wish to employ workers in a nondiscriminatory fashion, therefore, would have to pay males a wage premium (a compensating wage differential) to keep them.

And here is the question that arises. If employers are not discriminative, why would they have to pay males a wage premium to keep them? One possible answer here is that males constitute a large fraction of the labor force, so it is impossible to produce without them. Moreover, the pressure for women to be employed outside "traditionally female" occupations is a relatively recent phenomenon. Consequently, although males were hired on a different basis in the past, now that the circumstances have changed they have more competitors within the firm. Firms realize that changing their practices involves "cancelling" past promises to male employees, so that they can strike a balance between men and women. Wage premium is the golden solution here. To put differently, this tactic may prove costly to employers, but they cannot do without it.

2.2 Extensions of the Becker theory; Statistical discrimination

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One of the most important extensions of its model is based on the concept of statistical discrimination, which is related to the productivity of one or the other group (white-colored or men-women). The whole idea came from Dennis J. Aigner and Glen G. Cain in 1977 (Statistical theories of labor discrimination in labor markets); which added the "information cost" for the productivity of each worker. It is a commonly held belief that, each employer wants to know the skills and potential of their workers in accordance with their productivity and this information comprise a cost for employers. Because employers want to keep costs at a minimum, it is rational to rely on 'stereotypes' that affect the productivity of individuals in different population groups. In other words; they use these characteristics as filter (screening device).

There are two types of statistical discrimination. The first one is about the differences in the average productivity of various working groups, such as male – female, black- white etc. In this type, every employee is judged on the basis of the characteristics of the group they belong to. The second type of discrimination has to do with the variance of the performance of the groups. For instance, if men and women have the same productivity but the distribution of women has larger variance; a risk averse employer will choose to hire a man. Examining the statistical discrimination with statistical terms will help us to understand it better.

To begin with, employers base their hiring and placement decisions on some indicator of y; that measures the true skill level q. In practice y would involve a number of measures but here it will just involve a single test score by assumption. Therefore, the measurement equation is: $y = q + u$ where u is a normally distributed error independent of q with zero mean and constant variance; q is also normally distributed. With a mean equal to a and a constant variance.

The expected value of q given y is: $\hat{q} = (1 - \gamma)a + \gamma y$ (1)

γ is the coefficient correlation between score(q) and actual capacity (y).
If γ=0, the wage of the worker depends on his group mean.
If γ=1, the wage depends on the worker's personal score in the test.
Clearly; $0 < \gamma < 1$.

By normal distribution theory; the above equation is the least squares regression expressing q in terms of group effect $[(1 - \gamma)]\alpha$ and in terms of an individual effect (γy).

Consider now two different groups of workers, say males and females with different means and variances. The employer is assumed to pay a worker an amount $\hat{q}$ based on specific information of the group and the worker individual:

$$\hat{q}^m = (1 - \gamma^m)\alpha^m + \gamma^m y^m$$
$$\hat{q}^w = (1 - \gamma^w)\alpha^w + \gamma^w y^w$$

The slope γ will differ for the two groups as long as the variance of q and w differ. All the above assume that:

1) Workers have wage-maximization behavior
2) Employers have profit -maximization behavior
3) $E(q|y) = \hat{q}$

Equation (1) shows two different ways in which statistical discrimination affects the wages of women and, more generally, minorities. The first refers to the relationship between wages and average grades for men and women. Statistical discrimination affects both the steady and the slope of the curves linking salary and rating. In the random diagram below that shows this type of discrimination between the two sexes. The horizontal axis depicts the mean results of both groups whereas the vertical axis depicts the wage. As we can see if both sexes have the same grade, men will get higher wage because employers expect that the male candidate has more skills than the female candidate.

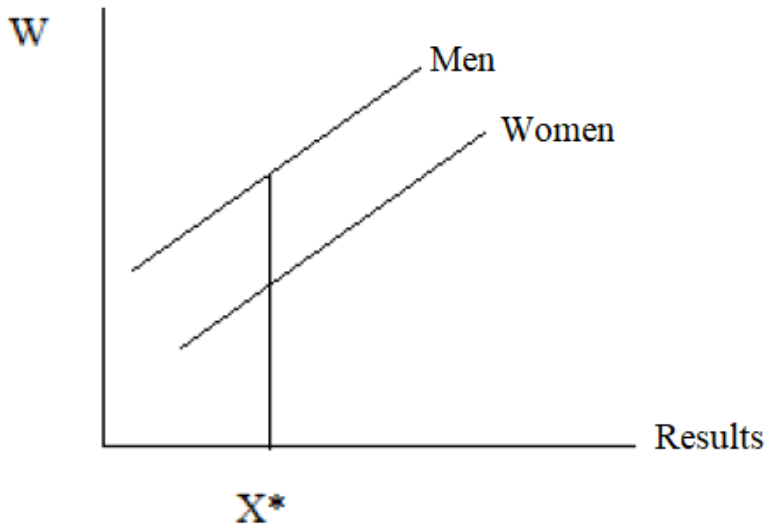

Figure 7- The effect of statistical discrimination on genders. Source: Gender discrimination in the labor market; Theory and Empirical analysis, The case of Greece 2017, Dorjan Banushi.

Yet, many scientists argue that sometimes the examination of women's formal qualifications do not really reveal their true productive capacity due to different intuition and view of things or because of the so-called 'bias culture'. Nor should we ignore the fact that

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examining the qualifications of candidates is most often done by male examiners. Let as see the previous diagram under women's perspective.

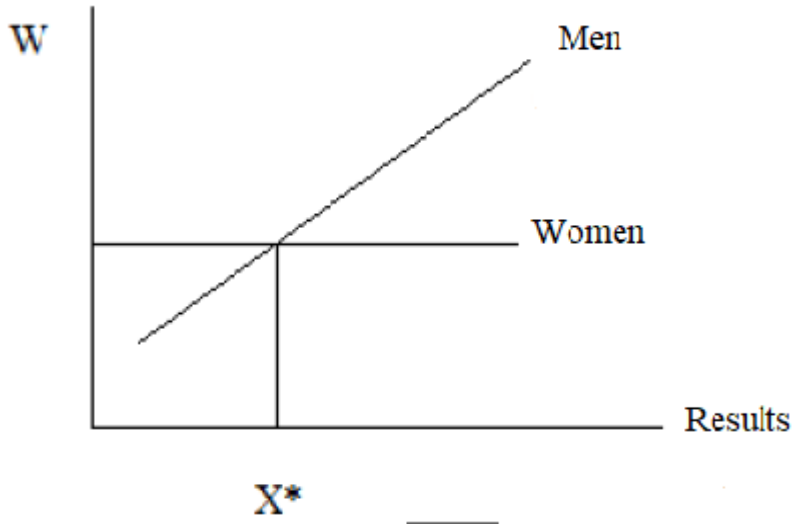

Figure 8- Different aspects of wage determination. Source: Gender discrimination in the labor market; Theory and Empirical analysis; The case of Greece, 2017, Dorjan Banushi.

In a few words the diagram says that women wage comes from their result as a team whereas men wage comes from their personal skills and qualifications. As a result, statistical discrimination means that women with low grades will earn more than men with the same rating, while the opposite will be the case for men with a high score.

The fact that employers who maximize their profits use statistics describing the team's performance, is causing important policy issues. It is a great deal of debate if employers should use the average performance of a particular group to predict the production capacity of the individuals that belong to it. This political controversy is related to the question of whether there should be several "social stereotypes" in measuring the productivity of different groups. However, adjustments to how productivity was measured would create the same average for both groups (male-female). In the same context, it is argued that even the competitive labor market is influenced by the "adverse selection problem". It is entirely rational for the employer to rely on 'statistical discrimination' instead of looking for each candidate individually.

A closer look on statistical discrimination shows that there are both positive and negative aspects to consider. To begin with it is a very useful tool to measure discrimina-

tion as it provides us many crucial information about workers productivity. To continue, when employers have a better point of view for their workers, it is much easier to allocate them in specific fields of the firm according to their personal skills. Not to mention that it is "synchronized" with profit maximization behavior. On the other hand, one obvious disadvantage it that the whole theory is inefficient for the society as it maintains the "stereotypes". It may also improve efficiency in the labor market, but it creates wage gaps between the two sexes and unequal employment opportunities, as women pay less than men.

2.3 Theory of crowding effect and theory of employment priority in the labor market.

There are two more supplementary theories of discrimination. Theory of crowding effect and theory of employment priority. The report for these theories will be short, as there is not enough bibliography and references to use. The citation here belongs to Lianos T. and Daouli-Demoussi A. in their book "Labor Economics" p.208.

According to the theory of crowding effect; discriminations against women and other minorities appear in the form of exclusion in specific occupations and hence their crowding in other jobs of lesser pay and responsibility. For instance, in a firm the owner prefers their employees of all sectors to be men (or white) and not women (or black). There is a crowd of women in specific professions. This leads women to turn to different works; which results in lower wages comparing to those they would have providing that discrimination does not exist. Crowding effect increases the proportion of men in job vacancies with high wage and women in job vacancies with lower wage.

As a consequence, we have the separation of male and female (or black and white) professions. In long term conditions this separation makes the acquisition and accumulation of human capital harder. Women would avoid acquiring knowledge and specialization in a male occupation.

To the second part of the subsubsection, there is the priority theory in the labor market. In this theory, employers express their preference in specific groups of workers. For example, if employers want to hire men, then men will be their priority. They will hire women if and only if, there are no men available to work in the present wage.

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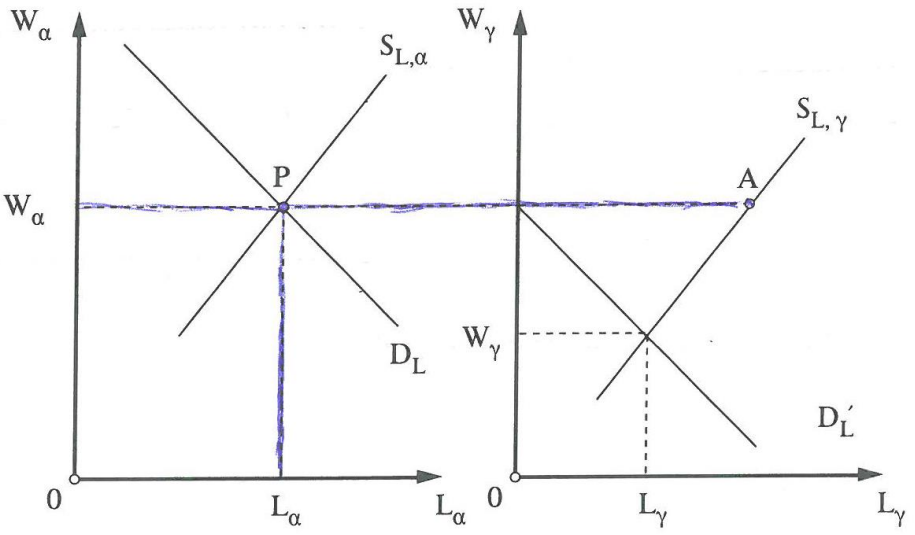

Figure 9- The effect of "labor priority" in a labor market. Source: Labor Economics, 2013, J. Ntaouli and T. Lianos.

The diagrams above confirm the hypothesis of the theory. The left diagram depicts the labor market of men; and the second diagram the labor situation of women. As we observe the first diagram we see that men will work for W_α wage and the employer will hire L_α capacity of men. We can see also that for W_α there is also labor supply by women. Given that there is no man available to work for W_α the employers are forced to hire women. The demand curve for women begins under point P for the reason I mentioned above. With supply curve S_L, γ, the wage for women is W_γ and the capacity is L_γ.

The previous analysis leads us to two obvious consequences. First, men wages are higher than women wages. Second, men's employment is higher than women. There is one exception here; if supply elasticity of men is too low and/or supply elasticity of women is extremely high women employment will be higher.

To sum up, from the later theory is stated that women's wage is lower than men's wage although their productivity is equal. On balance, firms who do not discriminate face lower costs higher profits and under competitive market terms they will survive. The maintenance of this type of discrimination implies that all employers give priority to men and no one is going to hire women if there are men available to work for the same wage. Last but not least, -as we have seen before- it is more possible to face discrimination under oligopoly or monopoly market models where firms do not compete others.

2.4 The economic aspect of discrimination against women; the cost benefit theory

In this subsection we are going to analyze what we has been presented so far. To exemplify that, we are going to see the cost benefit theory of discrimination. In this theory we are going to examine the pros and cons of having discrimination. The analysis will be in terms of both short and long-term horizon. The following data were found on Baloudros and Chrysakis book "Fighting Discrimination: Trends, Pre-Calls, Policies" p.229.

Cost/Benefit factor	**Shortrun Consequence**	**Longrun Consequence**
Cost for women on Individual Level	They receive lower wages for the same occupation. Reduced Income.	Economic dependency
Cost for Family Members	Reduced income.	More poverty, and specially child poverty.
Cost for Employers	Lower satisfaction for female employees. Higher rates of female leaving. Missed chances of lost talents.	Competition between companies is being harmed and their viability is jeopardized.
Cost for public administration	Higher cost of active labor market policies to tackle women's inactivity and reintegrate them into the labor market	Loses revenues from low taxation from the low-waged women.
Cost for society in general	High female unemployment.	Lower quality of life.
Benefit for employers.	Higher profits by giving lower wages to women.	They manage to survive in terms of competition.
Benefit for public administration.	Collects more income taxes from higher employer's profits.	The same as in short-term.

Figure 10- Cost/Benefit analysis of Gender discrimination. Source: D. Baloudros, M. Chrysakis, 2012: Fighting Discrimination: Trends, Pre- Calls, Policies".

We see what the international literature says. There are both advantages and disadvantages in gender discrimination. The situation is not suitable for women as they are the vulnerable group of workers. We understand that there are more disadvantages than

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advantages, and these discriminations are an obstacle for the society as a whole as well as the firms. Yet, we should not forget here that the situation has changed radically -as we have seen before – and the wage gap has been reduced over the decades.

3. The Human Capital and pay differentials based on the gender of employees.

In this section we will deal with the human capital theory so as to give another possible explanation for wage differentials between men and women. Human capital refers to features related to the productivity that individuals develop over time. These characteristics can be acquired during basic and higher education, from in-work training, from work experience either within the same company or from employment to different companies or professions. Still, human capital refers to physical and mental health to the extent that health increases productivity. Therefore, the wage received by a person is not only the reward for the time he spends to work, but also the reward for the company to use the human capital of the person at the time of work.

3.1 Gender wage differentials, due to human capital

Human capital theory leads to several explanations of why women earn less than men. First, women may have less human capital than men. Secondly, women could have the same amount of human capital as men, but it could vary in type in the following four ways: (1) women may be more likely to invest in human capital that has high non-market return; (2) women are likely to invest in human capital that increases satisfaction with time spent in market work, non-market work, or leisure, while men may invest in human capital ignoring their personal satisfaction and emphasizing in high wages; (3) women may invest in human capital that depreciates less rapidly than the human capital that men invest in; and (4) women may be less likely to invest in forms of human capital that are only useful in specific companies or jobs. We call this type of human capital: specific human capital. In all four cases, women's monetary return on a given amount of human capital investment will therefore be lower than men's (Carine Moe, Joyce P Jacobsen, 2003, "Women, Family, and Work Writings on the Economics of Gender" p. 163).

The most interesting part here; is to see why two different people-a man and a woman-vary in their amount of human capital even though they have the same age. Human capital investment has two fundamental restrictions/resources: Time and money. To illustrate the point here; an example will be given: public schooling is often free, but it involves purchasing the basic equipment. Hence, families with less income are less likely to acquire the same amount of human capital comparing to other wealthier families. Not to mention that, human capital decisions are not always in people's hands. A country wants to allocate resources across its labor force and a family will do the same for their children.

Wanting to draw important conclusions, the following survey was chosen conducted by United Nations Developing Program and US National Center for Education Statistics. The survey shows measures of educational attainment by gender, in developing, and developed countries. As we see from the table below, it is a commonly held belief that in the majority of developing countries women are less educated than men. Even the literacy rates, the most fundamental form of education are disappointing for women. As we have seen so far, the explanation relies on the neoclassical framework: either women's education involves higher opportunity cost because they must acquire skills including childraising skills and household production, or men's education leads to higher payoffs.

Table 9.1 Measures of educational attainment by gender, developing, and developed countries

	Women	Men	Women/men ratio
Developing countries			
Average years of schooling, 2000			
Persons 25 years and older	4.03	5.74	0.70
Persons 15 years and older	4.33	5.92	0.73
Literacy rate, persons 15 and older, 1998	64.50	80.30	0.80
Developed countries			
Average years of schooling, 2000			
Persons 25 years and older	9.55	10.06	0.95
Persons 15 years and older	9.53	10.01	0.95
Rate of bachelor's degree recipients			
Persons of typical graduation age, 1996	25.30	21.10	1.20

Sources: Barro and Lee (2000: Table 5); United Nations Development Programme (UNDP) (2000: Table 1); NCES (United States National Center for Education Statistics 1999: Table 415). Number of countries in the sample varies depending on data availability.

Figure 11-Educational attainment by gender in developing and developed countries. Source: The Human Capital Explanation for the Gender Gap in Earnings; Women, Family and Work: Writings on the Economics of Gender,2003, Joyce P. Jacobsen, Karine S. Moe.

On the other hand, this explanation does not apply clearly to developed countries. As we see on the bottom half of the table women have several favorable characteristics relative to men in these countries, including a higher rate of bachelor's degree attainment.

It is also important here to point out, that educational attainment, much of which occurs before a person has entered full-time employment, is only half of the story. The other major part concerns the human capital a person acquires during his "working life". Therefore, there is a need for measuring this "worktime" of human capital. The following table helps us do this and extract crucial conclusions. Table 9.2 provides us vital information about United States workforce human capital. It is obvious enough that, there are radical differences comparing to developed countries. Training rates are much higher across women and men, although the type and quantity of training received may be quite different.

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Men have higher mean years of time at their current employer and higher mean years of total work experience. They also have much lower rates of intermittent labor force attachment, that is, gaps in their work experience record – a factor that relates to their higher tenure and experience- but can also potentially relate to higher depreciation rates of human capital for women. The net effect of these factors is that, aside from training, the female workforce apparently has a substantially smaller amount of these forms of work-time human capital than does the male workforce.

Table 9.2 Measures of work history by gender, US workers

Category	Women	Men	Women/men ratio
Proportion who took skill improvement training while in their current job, 1991	41.0	40.0	1.02
Average years worked at current firm	6.5	8.9	0.73
Average years of work experience	18.0	20.4	0.88
Percentage of workers with one or more work interruptions	47.0	13.2	3.63
Percentage of potential work-years spent away from work	14.7	1.6	9.19

Sources: United States Department of Labor (1992: Table 38); Jacobsen and Levin (1998: Table 1); United States Department of Labor (1987 Current Population Reports Series P-70, no. 10 Tables A, C, E). Non-training data are from the Survey of Income and Program Participation, 1984, 1985, and 1987 panels (all three used for tenure and work experience; 1984 only for interruptions and work-years). Workers are ages 21 to 64. Potential work-years is defined as age minus years of schooling minus 6 years.

Figure 12- Measures of work history by gender, in US workers. Source: The Human Capital Explanation for the Gender Gap in Earnings; Women, Family and Work: Writings on the Economics of Gender, 2003, Joyce P. Jacobsen, Karine S. Moe.

We conclude that these factors are crucial and critical determinants internationally of the gender wage gap in the twenty first century.

3.2 Human Capital Differences and Gender Wage Gap

We have seen now so far that women do not have the same amount of human capital as men. In this subsection, there will be an attempt to measure the impact of these different amounts of human capital on the gender gap. We will also see evidence for the proportion of the gender gap accounted by these differences.

There is no doubt that factors such as educational attainment and health constitute sufficient explanations for the gender wage differentials. We make the assumption, that gender wage differentials would be much higher in third world countries where human capital gap appears in wider scope. Yet, this is not enough to measure the impact of the

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human capital on the gender gap. And that is because the very different participation rates in the labor market can lead us to biased (different) results. To exemplify, in the scenario where women with high levels of human capital enter the labor market, where there is a wider range of men -with higher levels of human capital- the wage ratio will non-representative as it compares two extremely different groups. Hence the biased ratios will underestimate the gender difference in earnings.

On the other hand, there is the exactly opposite phenomenon, where the ratios overestimate the problem of the gender pay gap. The most common case of overestimation is that of scientific surveys which collect data from countries largest firms. But this data is non-representative because they usually discriminate more than the other and pay women much less money comparing to men. Of course, these firms can underestimate as well as they might pay women higher wages.

To the best of our -so far- knowledge, both phenomena seem to appear; but the selection bias appears to work in the direction of underestimating disparity. They explain also why wage ratios between developing and developed countries are similar.

Table 9.3 Non-agricultural hourly earnings ratios, developed, and developing countries

Country	Women/men	Country	Women/men
Iceland	0.93	Botswana	0.97
Sweden	0.90*	Turkey	0.97*
Australia	0.89	Myanmar	0.96*
Norway	0.88*	El Salvador	0.95*
Denmark	0.83	Kenya	0.94
New Zealand	0.83	Philippines	0.90
France	0.82	Cook Islands	0.89
United Kingdom	0.80	Sri Lanka	0.85
Finland	0.79*	Egypt	0.81
Belgium	0.79	Costa Rica	0.79
Netherlands	0.77	Mexico	0.76
United States	0.76	Brasil	0.75
Ireland	0.75*	Paraguay	0.74
Germany	0.74	Thailand	0.72
Luxembourg	0.70	Swaziland	0.64
Austria	0.69	Cyprus	0.64
Switzerland	0.67	Malaysia	0.63*
South Korea	0.64	Eritrea	0.58
Japan	0.64	Macau	0.56*

*For manufacturing only.

Sources. All countries except United States – International Labour Office, *Yearbook of Labour Statistics* (1994–99) (Table 5). United States – 2000 median weekly earnings for year-round full-time workers, United States Department of Labor 2001, *Employment and Earnings* 48, no. 1 (January): Table 37. Data are from 1989–2000.

Figure 13-Non-agricultural hourly earnings ratios in developing and developed countries. Source: The human Capital Explanation for the Gender Gap in Earnings; Women, Family and Work: Writings on the Economics of Gender, 2003. Joyce P. Jacobsen, Karine S. Moe.

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The table above confirms the previous results of underestimation and doubt of results. In countries where overall female labor force participation is low, the wage ratio is quite comparable to countries where the participation rate is higher, and in some cases countries with low female participation rates have above-average gender wage ratios. The average level across the represented countries is 0.79. The average across the developed countries, of 0.78, is not significantly different from the average across the developing countries in the table.

For United States data, studies designed to measure the net effect of these differences on the wage gap generally report that some 30 to 50 percent of the gender wage difference is attributable to gender differences in human capital (Jacobsen 1998).

3.3 The "Opponents" of The Human Capital Theory

It appears that discrimination in human capital accumulation is a determinant factor in gender wage gap explanation for women in the developing countries. It has been difficult for scientific community however to design valuable and reliable surveys and results in the developed countries even if they collect the most reasonable data for reasons that are referred in the previous subsection. (Jacobsen 1998). In this subsection we will see the main critiques of the human capital explanation.

One of the main critiques of human capital theory is that it tends to ignore choices made prior the entrance on the labor market such as marriage, family raising etc. This comes in contrast with the assumption of people's free choice in making human capital decisions. It is easily understood that women spending less time in labor force is not always free-but not always forced as well. There is no doubt that there are social norms that affect everyone's free choices for both sexes. Therefore, in the case of women, the nature of these norms constraints them more than the average. Hence, even if they have higher educational attainment or more experience than their male colleagues, their effort is undermined.

Another argument of the critique is the "crowding effect" which we have already seen. In this case, to the extent that women are only allowed into a narrow range of occupations, the rate of return on human capital in the female-dominated occupations is lower than it

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would be in a freely operating labor market. Also, if occupations differ in terms of the wage differential paid to women and men of equal productivity, women will be more likely to invest on specific human capital for the less discriminatory occupations. This creates a different occupational choice process for women than for men. Occupations, that are lower-paid but less discriminatory are relatively more attractive to women (Karine S. Moe, Joyce P. Jacobsen (2003) "Women, Family, and Work Writings on the Economics of Gender. The Human Capital Explanation for the Gender Gap in Earnings p. 172"). So, it's not about the human capital because they have the same productivity, it's about women's decision.

Another point worth mentioning is the "Marxists" argument. According to Samuel Bowles and Herbert Gintis (1975) and many labor market theorists, a degree is just a screening device that shows who is more or less able; and not a way to increase ability. Hence, rising wages may be a function of linking wages to seniority, not the result of increased productivity.

The next argument is the "anti-feminism" argument. According to this scientific result, there are occupations that are segregated into male and female. Female dominated occupations appear to be less profitable with workers gaining lower wages than male dominated. Although it sounds "sexistic" it is supported by many labor market economists. (Barbara Raskin and Patricia Roos, 1990; Bringing the Men Back In, Sex Differentiation and Devaluation of Women's Work). It is based on the idea that society needs more human capital from men. So even if women take initiatives to increase their human capital, their actions will not be profitable enough.

In a nutshell, human capital theory is undeniably one of the most common answers of why a woman earns less than a man. The evidence behind the theory, however, raises several questions. In this case, more scientific research needs to be done so as to extract more credible results and why not remodeling the theory in accordance with the new possible results.

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4. Empirical evidence

Having seen many theories, opinions, causes and consequences, in this subsection we are going to see diagrams and economic data that came out of researches on gender discrimination. It will be very useful to understand how the above theories were implemented and what is the situation until a few years ago and now. It goes without saying that every economic phenomenon can be better understood and explained on the basis of empirical research.

First, let as see some useful diagrams. The first diagram shows the labor force participation for both sexes the period 1947-2012 in the US.

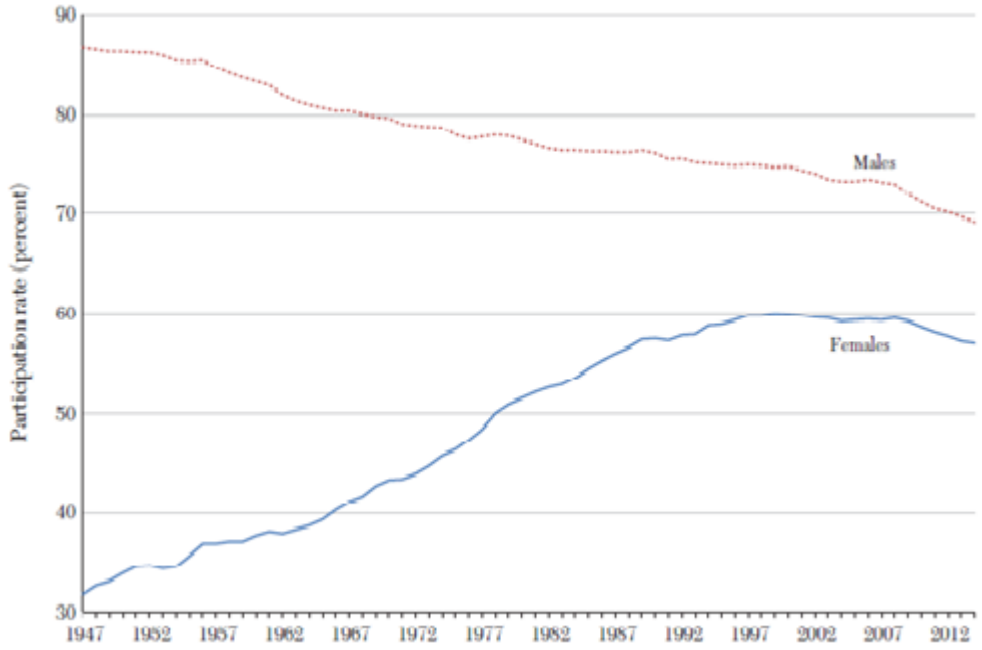

Figure 14- Trends in US's Male and Female labor force participation rates in period 1947-2014. Source: Traditional Factors that Affecting the Gender Pay Gap; The Gender Wage Gap: Extent, Trends, and Explanation, 2017, Francine D. Blau, Lawrence M. Kahn.

We see that women's participation was dramatically increased. Especially from 31,8% in 1947 was increased in 51,2% in 2012. The reasons for this extreme increase are the rising wages of women and the increasing educational attainment.

One research worth mentioning, is that of Blau and Kahn that tries to decompose the gender wage gap. They used data from the Michigan Panel Study of Income Dynamics (PSID) database and the annual March Current Population Survey (CPS). They tried to decompose the levels and changes in the gender wage gap by using log wage regressions.

They estimated wage models that only concern education, experience, race and region; and they name this the "human capital specification". In the table below we include only human-capital variables (education and experience). Second, we augment this model with a series of industry, occupation, and union coverage dummy variables. They named this equation the "full specification." Since these latter variables may have an ambiguous interpretation—i.e., they may represent human capital, other labor market skills, and commitment, on the one hand, or employer discrimination, on the other hand—we present both versions.

DECOMPOSITION OF GENDER WAGE GAP, 1980 AND 2010 (PSID)

	1980		2010	
	Effect of gender gap in explanatory variables		Effect of gender gap in explanatory variables	
Variables	log points	Percent of gender gap explained	log points	Percent of gender gap explained
Panel A. Human-capital specification				
Education variables	0.0129	2.7	–0.0185	–7.9
Experience variables	0.1141	23.9	0.0370	15.9
Region variables	0.0019	0.4	0.0003	0.1
Race variables	0.0076	1.6	0.0153	6.6
Total explained	0.1365	28.6	0.0342	14.8
Total unexplained gap	0.3405	71.4	0.1972	85.2
Total pay gap	0.4770	100.0	0.2314	100.0
Panel B. Full specification				
Education variables	0.0123	2.6	–0.0137	–5.9
Experience variables	0.1005	21.1	0.0325	14.1
Region variables	0.0001	0.0	0.0008	0.3
Race variables	0.0067	1.4	0.0099	4.3
Unionization	0.0298	6.2	–0.0030	–1.3
Industry variables	0.0457	9.6	0.0407	17.6
Occupation variables	0.0509	10.7	0.0762	32.9
Total explained	0.2459	51.5	0.1434	62.0
Total unexplained gap	0.2312	48.5	0.0880	38.0
Total pay gap	0.4770	100.0	0.2314	100.0

Figure 15- Decomposition of Gender Wage Gap, in nonfarm workers aged 25-64 years. Source: Explaining the Gender Wage Gap at the Mean; The Gender Wage Gap: Extent, Trends, and Explanations, 2017, Francine D. Blau, Lawrence M. Kahn.

Specifically, it shows the fraction of the total gender wage gap in 1980 and 2010 accounted for by gender differences in each group of variables for both the human capital and full specifications, based on the Oaxaca–Blinder decomposition. The entries are the male– female differences in the means of each variable multiplied by the corresponding male coefficients from the current year wage regression. In panel A, one sees the contribution of traditional human capital variables, education and experience, while it does not include control for industry, occupation, or union status. In 1980, the male advantage in education raised the gender wage gap somewhat, while the male experience gap contributed substantially (0.114 log points). By 2010, due to the education reversal, women's higher level of education slightly raised their relative wage. Thus, male advantage was

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decreased (0.037 log points) to the gender wage gap, accounting for 16 percent of the now much-reduced gender wage gap. Another notable change was the decline in the unexplained gap from 0.341 log points in 1980 to 0.197 log points in 2010 (Francine D. Blau and Lawrence M. Kahn (2017) "The Gender Wage Gap: Extent, Trends, and Explanations", Journal of Economic Literature 2017, 55(3), 789–865.).

In panel B we see the decomposition of the gender wage gap using the "full specification". In 1980, gender gaps in industry and occupation together accounted for 0.097 log points, or 20% of the gender pay gap, with gender differences in union coverage contributing an additional 0.03 log points or 6% of the gap. By 2010, the convergence in male and female unionization rates had virtually eliminated the contribution of this factor, but occupation and industry continued to account for a substantial gender gap of 0.117 log points or 51 percent of the smaller 2011 gender gap. The continued importance of occupation and industry in accounting for the gender gap, and the rise in the relative importance of these factors, suggests that future research on explanations might fruitfully focus on gender differences in employment distributions and their causes.

Now, let us see what happens in Europe. In the first diagram we see the employment rate by sex across all European countries as a result. The group is men and women that belong to the age group between 20-64 years in the period between 2007-2016. The data came from Eurostat database.

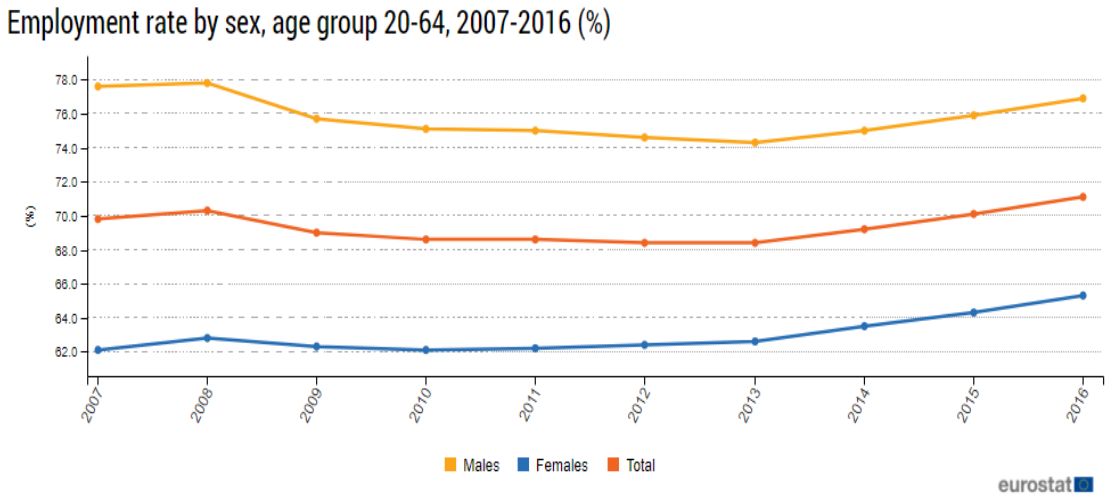

Figure 16- Employment rate by sex, age group 20-64, 2007-2016. Source: www.ec.europa.eu/eurostat/

First and foremost, we see that the employment rate is higher in men. Another point worth mentioning is that the employment differential is in a way stable to 11-13 percentage points. Although it is not clearly illustrated by the diagram we know that comparing with the previous century the employment differential is much lower than it was, for example, 50 years ago. We only have to look at the first diagram to see the increase of women in labor force participation.

On the same frame, three European countries-Finland Turkey and Greece- have been chosen to depict their employment rate by sex from 1993 to 2016. Our data come from Eurostat database and the age group is from 16 to 64 years. The red color indicates men, while the green women and the three blue lines is the average rate.

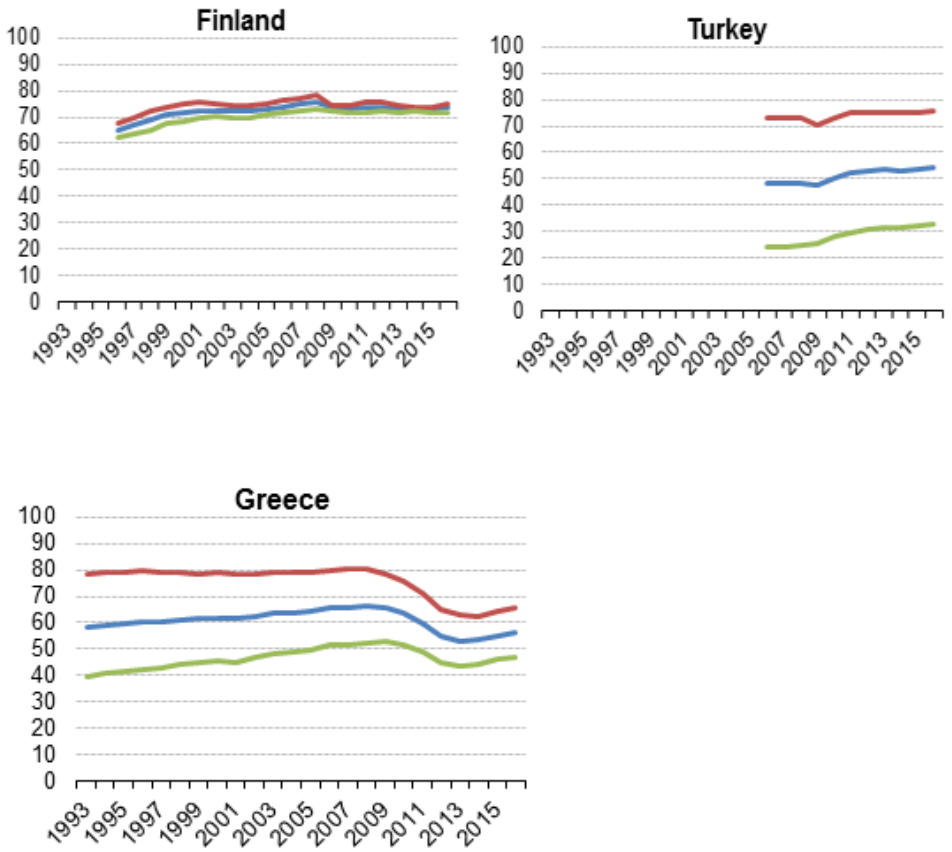

Figure 17- Greece's, Turkey's, and Finland's employment rate by sex, 1993-2016. Source: www.ec.europa.eu/eurostat/

There is no doubt that Finland (and other Scandinavian countries as well) has the highest female employment rate of all European nations. Both curves move on the same way and are very close to each other. In other words, they converge. This means that Finland has set aside gender discriminations and gives work opportunities to women. This has had positive effects so far, as we can see from the country's macroeconomic fundamentals.

On the other hand, Turkey is not only the country with the lowest female employment participation in Europe, but the employment differential is also one of the highest. In the most recent years there is a minimal increase -just 5 or 6 percent- but Turkey has a long way to go until she reaches the "standards" of a west type country. The reasons for this

situation are mainly the culture the absence of the social state and the lack of democratic principles.

In Greece, we see that although there is an employment gap, as years go by this employment gap has been reduced. The most interesting part here is that the curves -as opposed to those of the other countries- do not follow the same pattern. They may seem to converge but with a closer look they show that the male curve has fallen at about 20% whereas the female curve has increased at about 8%. It seems that male unemployment increases and female decreases. One plausible explanation for this is that Greece has been in debt and banking crisis for 8 years. For this reason, employers want to hide employees with much lower wages than before. Thus – according to the priority theory- since there are no men available to work for lower wages, the employers hire women for the same occupations.

After the employment data by sex rate, let as see the gender pay gap in percentage units in 2007 in Eu of 27 and in specific countries as well. From the table below, we see that the majority of the percentages is positive which means that men are paid higher wages than women. The negative numbers mean the opposite. It is obvious that in Europe as a whole the highest rate of the wage gap is in Financial Institutions (31,8%). But there are many countries that have different industries where there is higher gender pay gap. For example, Spain discriminates in Health and Social Care (29,2%), Germany in Asset management leases and business activities (30,3%) and Greece in Mines and Quarries (25,3%). The data came from Eurostat.

	EU-27	Belgium	Denmark	Germany	Ireland	Greece	Spain	Italy	France	Cyprus	The Netherlands	Portugal	Slovenia	Finland	Sweden	UK
Mines and Quarries.	16,2	3,4	17,5	5,7	**39,7**	**25,3**	18,7	-2,5	3,6	36,5	25,6	5,2	7,4	13	6	-2,4
Manufacturing Industries.	23,7	12,4	16,2	28,6	19,7	21,3	24,8	21,7	18,4	34,4	21,7	**34,3**	21,6	15,2	10	21,4
Electricity, Gas and Water supply.	13,7	21	15,9	20,8	25,5	4,4	24,3	8,5	10,5	25,8	15,2	18,1	-4,4	17	13,9	26
Constructions.	5,6	-0,8	12,5	14,9	26	7,3	6,5	1,3	-5,8	15,4	22,5	-18,3	-35,5	9,6	5,8	18,8
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods.	23,5	17,1	19,4	25	29,5	20,2	26,1	16,6	14,6	34,7	29,6	20,2	24,3	24,4	17,2	26,5
Hotels and Restaurants.	14,5	11,9	9	13,2	14	18,5	17,4	9,4	9	24,2	12,6	23,8	8,6	11,6	9,5	17,5
Warehousing and Communications.	9,5	6,2	13	8	20,3	22,3	16,1	9,4	6,5	**38,5**	22,1	-6,8	4,8	12	5,1	9,5
Intermediary Financial Institutions.	**31,8**	21,7	**22,9**	29	31,9	22,6	28,2	28,3	20,4	33,2	**33,9**	20,3	**26,6**	**36,5**	**34,9**	**41,9**
Asset management leases and business activities.	24,2	**24,5**	16,9	**30,3**	24,4	14,5	24,9	**29,2**	24,7	32,9	23,3	18	10,1	22,4	18,4	25,3
Education.	15,4	5,8	10,3	16,6	26,5	23,6	7,8	15,2	15,2	18,7	17,1	18,7	11,8	13,6	13,3	18,3
Health and Social Care.	24,9	4,7	14,5	24,2	27,9	16,5	**29,2**	21,8	**28,8**	24,6	24,9	29,9	25,4	31,1	18,2	32,8
Other service activities for the benefit of the community as a whole and other services of an individual or social nature.	19,4	13,7	8,5	22,7	21	24,1	25,4	21,6	18,6	26,8	18	27,9	13,5	17	10,5	22,1

Figure 18- Gender Inequality percentage by industry, 2007. Source: Labor Market Discrimination; Gender Wage Inqualities, 2008, S. Meimetea.

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5. The institutional framework for combating gender discrimination

In this section of my thesis, the institutional and legal framework of gender discrimination is examined. In addition, there are references to the measures that have been taken so far to combat gender discrimination as well as what other efforts remain to be made to eliminate discrimination. The report on the laws will be short as it is not among this project's goals to scrutinize the laws but to make a brief reference to the institutional framework to find out whether the European Union has really dealt with the issue of discrimination.

5.1 The European and national institutional framework

It goes without saying, that Europe has established laws, rules and regulations that aim to combat discrimination. There are many rules such as rule 10 and 19 that refer to the fight against discrimination. Additionally, to the Lisbon Treaty, which was put into force in December 2009, the binding force of the Charter of Fundamental Rights was established in the founding treaties. The Charter of Fundamental Rights includes regulations on equality, prohibition of discrimination, equality between men and women, inclusion of people with disabilities, etc. There are special bodies in charge of the protection of human rights and minority rights in the Council of Europe. These bodies are: the European Court of Human Rights, the Commissioner for Human Rights, the European Social Rights Committee, the Consultative Committee on the Protection of National Minorities.

The international institutional framework has been formed accordingly. Just like Europe, the United Nations have developed an integrated system for the protection of human rights. This system includes: The International Covenant on Civil and Political Rights

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(ICCPR), the International Covenant on Economic and Cultural Rights (ICESCR), the International Covenant on the Elimination of All Forms of Racial Discrimination (ICERD), the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).

The Committee has made a significant contribution to the reports and petitions they draw up and address to their members, pointing out weaknesses and omissions of national actors in the field of discrimination and proposing action; at both European and national level.

At this point we will see the main forms of discrimination among six European countries. The study from Social European Research will help us on this.

Reasons of discrimination	United Kingdom	France	Germany	Spain	Sweden	Greece
Ethnicity	14.3	11.7	35.9	20	13	35.5
Color or Race	22.2	26.5	7.8	21.2	3.7	29.1
Age	12.9	4.9	3.1	1.2	15.7	11.3
Sex	9.7	13	7	9.4	29.6	8.4
Other form	14.7	47.5	5.5	17.6	29.6	7.9
Religion	25.8	9.9	14.1	20	9.3	6.9
Language	2.5	3.7	15.6	9.4	5.6	5.9
Ethnic group	6.1	8.6	16.4	4.7	9.3	4.9
Sexual Orientation	6.1	4.9	6.3	8.2	2.8	2.5
Disability	5.7	9.3	7	3.5	11.1	2.5

Figure 19- Reasons of Discrimination in 6 EU countries. Source: D. Balourdos, N. Sarris, A. Tramountanis, M. Chrysakis, 2014, "Vulnerable Social Groups and Discrimination in the Labor Market".

We see that every country has a different main form of discrimination. For instance, United Kingdom discriminates in religion, whereas France focuses on color with sex following. In Germany, ethnicity seems to be the high priority whereas in Spain race plays the most important role. Citizens of Sweden surprisingly believe that sex and other forms of discrimination exist in great level. In Greece, there is high discrimination in ethnicity and race. The case of Greece will be analyzed in the next chapter.

The topic under examination here is Europe 27. The same survey was conducted from Eurobarometer in all 27 countries of Europe. And the survey goes as follows:

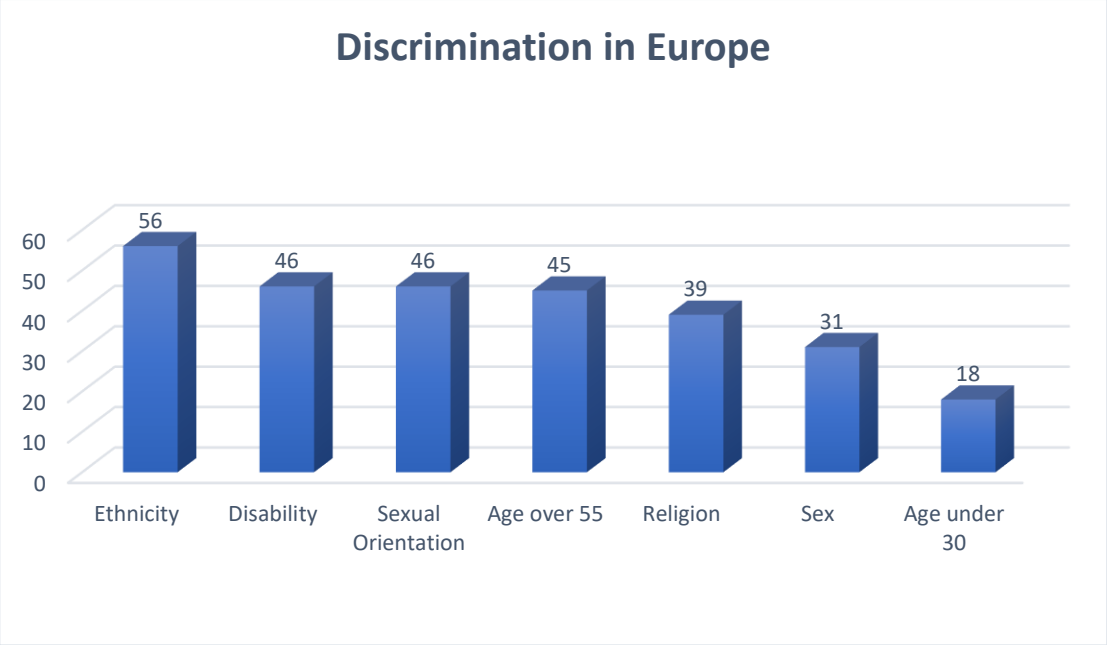

Figure 20- Reasons of discrimination in Europe, 2012. Source: D. Balourdos, N. Sarris, A. Tramountanis, M. Chrysakis, 2014, " Vulnerable Social Groups and Discrimination in the Labor Market".

According to this table, we see that in Ethnicity comes in the first place of discrimination in EU with 56%. Then, we see disability and sexual orientation following with 46%. We see that gender discrimination is quite lower than the first two categories. Nevertheless, it still remains a countable variable in discrimination equation.

5.2 Intervention models for the implementation of gender equality

In the second part of this chapter, the focus is on what choices are available for the promotion and implementation of gender quality on workplace. The models are from Chrysanthy's Charalampopoulou project "The particular function of the social dimension of the principle of equal treatment in the sensitive field of employment p.52" There are four models of intervention, which we are going to see:

a) Model of institutional / regulatory intervention. This model is characterized by the existence of a good institutional and regulatory framework, provision of incentives and advisory support, and the adoption of practices and projects promoting gender equality. This model seems to be the most promoted and effective one as it is accompanied by a series of public monitoring mechanisms with institutional strength and economic terms. The regulations apply in both public and private sector and are mandatory as they are monitored by institutionalized reporting mechanisms.

b) Model of social partners. This deals with the conclusion of agreements and social initiatives for the implementation of gender equality actions at national and local level. This can be achieved by either through collective agreements or through actions by the social partners, or unilateral initiatives in the development of corporate social responsibility (Ireland).

c) Policy mixed model. This model is characterized by the occasional implementation of measures and interventions. Measures and interventions depend on political faces and spheres of influence (Greece, Luxemburg, Slovakia, Hungary).

d) Model of unilateral/corporate initiatives. This model is conducted by multinational companies with a different corporate culture and working relationships and policies for managing the large workforce. Great Britain is the country with the most corporate initiatives in the implementation of equality.

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6. The case of Greece

Before we start to analyze the empirical evidence, a short presentation of the discrimination and the gender earnings differentials in Greece will be provided. Based on a research "Gender Earnings Differentials in the Greek Labor Market conducted by Cholezas and Tsakloglou", it can be indisputably said that discrimination in the labor market is a very important economic issue with many distributional consequences for both sexes and the society alike. The causes seem to be the same as those in other countries; unemployment and the involuntary labor force non-participation on behalf of women.

In the case of Greece, the discrimination appears more frequently in the private sector balanced against the public sector where wages are set after negotiations between governments and public sector unions. To elaborate, according to Budget Household Surveys in Greece (1988, 1994,1989), women seem to 25% less than men in the competitive private sector and 20% less in the public sector. The previous evidence is confirmed by the following graph showing the hourly earnings of both genders segregated by sector.

Year	Average years of education				Average years of potential experience			
	Public sector		Private sector		Public sector		Private sector	
	Males	Females	Males	Females	Males	Females	Males	Females
1988	11.1	12.0	9.2	9.0	22.9	17.4	20.6	18.1
1994	11.6	12.3	9.5	10.1	23.5	19.7	21.1	18.0
1999	11.8	12.8	10.6	11.1	25.1	21.5	21.1	18.0

Figure 21- Human capital characteristics of private and public sector employees Source: Ioannis Cholezas and Panos Tsakloglou,2014, " Gender Earnings Differentials in the Greek Labor Market1".

Looking in the data provided by the pointer it goes without saying that, indeed discrimination is in higher levels in the private sector comparing to the public one. Furthermore, the analysis above gives us evidence that are familiar to us from the "Human Capital Chapter" of the Thesis. To demonstrate that, there are years when women have higher average years of education than men (either mandatory or tertiary education). Yet, men have many years of experience and this gives them the advantage of higher hourly rates.

The fact that the observed gap can be attributed to discrimination can be confirmed by many economists. On this occasion, Psacharopoulos (1983) states that in the mid 70's almost the 90% of the gender wage gap is due to discrimination. Kanellopoulos and Mavromaras (2002) claim that women earn 21,5% less wage than men in 1988 and 25,1% less in 1994. Karamesini and Ioakimoglou (2003) support that discrimination is more

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often in industries than in services, because service sector is more “appealing” to female workers.

In a nutshell, Tsakloglou and Cholezas, on their effort to decompose the gender wage differentials, they used many methods of decomposition such as the Mincerian method, the selectivity method and the Yun method. Irrespectively of their method, they found that discrimination accounts for about the three quarters of the observed gap, in the case of Greece.

Before we move to the Conclusions chapter, it has been considered essential to demonstrate empirical evidence from Greece. From this empirical evidence, some crucial results about the situation in Greece especially in the years of crisis have been extracted. The data came from Greek statistical authority (ELSTAT) and are quite recent. The only important information that is needed before we see any evidence is that from the total population of Greece being 9,212,800m, out of which the labor force (employed and unemployed) amounts to 4,804,500m (52,2%) and 4,408,300 comprise the labor force (47,8%). With this crucial information let as start our analysis.

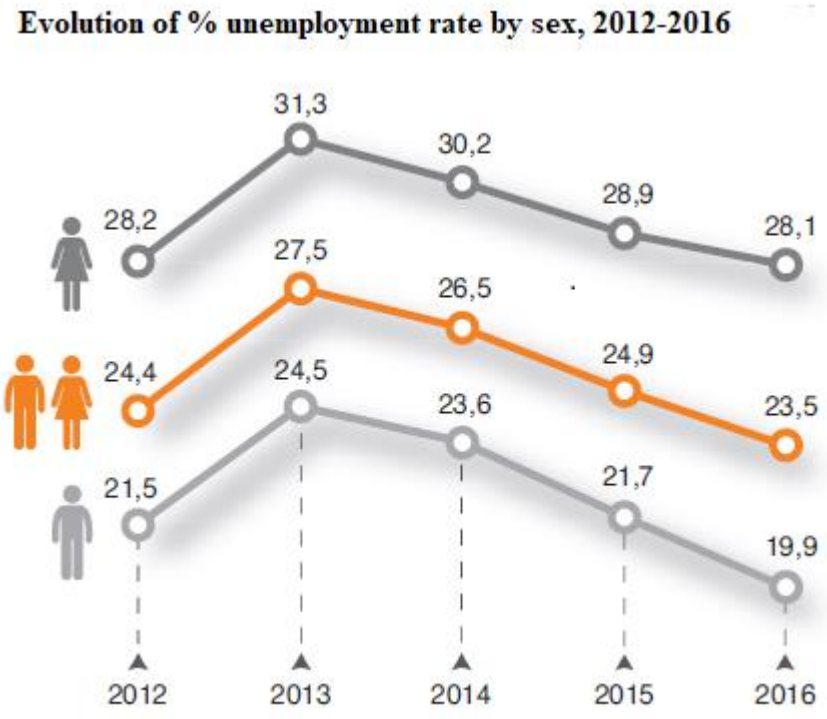

Figure 22- Evolution of % unemployment sex rate percentage, 2012-2016. Source: www.statistics.gr

The first research is about the evolution of unemployment rate in years 2012-2016. It is obvious that women face higher rates of unemployment in all years with the highest rate

present in 2016 with 8,2%. Indisputably, there is gender discrimination in the form of labor market exclusion.

After the unemployment part, let as see the employment by occupation and sex in percentage units.

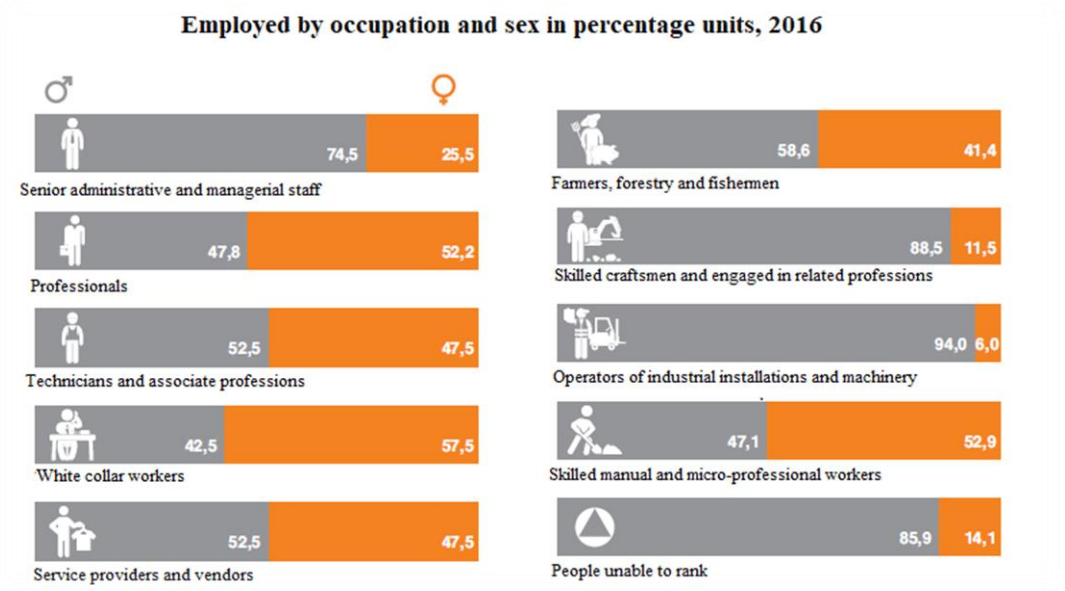

Figure 23-Employed by occupation and sex in percentage units, 2016. Source: www.statistics.gr

We can see that, men are highly occupied as senior administrative and managerial staff due to human capital (it will be analyzed in the next chapter), and in jobs that are by nature "male jobs" such as operators of industrial installations and machinery, and skilled craftsmen. The table above confirms that we will hardly see women in constructions. In all other occupations labor force seems equally distributed, with women being favored in micro-professions, white collar workers, and professionals.

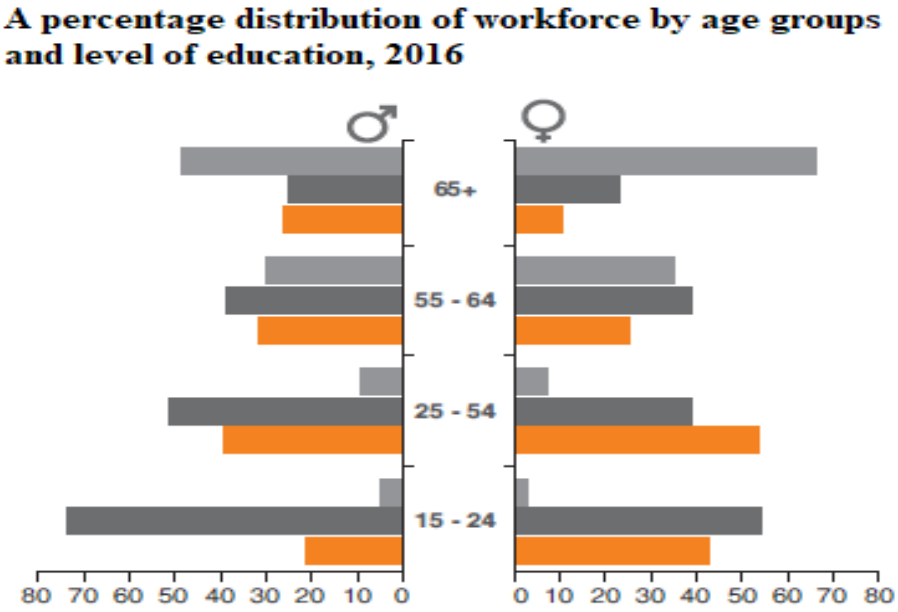

Figure 24- A percentage distribution of workforce by age groups and education level in 2016. Source: www.statistics.gr

The last graph shows a percentage distribution of the workforce segregated by sex, age and education level. The first line is for people of primary education or even illiterate, the second line is about people of secondary education and the third line (yellow) is about people of higher education. To begin with men, most of the workforce consists of people of primary and secondary education of all ages. In women, higher education seems to be more important as the distribution is higher -for women who have at least a degree- at least until the age of 54. This makes sense because women want to acquire more human capital, so they have less chances to drop out of, for example, university. Consequently, it is more likely to have a degree compared to men. Hence, the distribution is higher for them.

In a nutshell, we see that in Greece there is discrimination against women. According to OECD, in 2016, 21.6% of female graduates of higher education in our country were unemployed compared to 12% of their male colleagues. More specifically for holders of postgraduate or doctorate degrees, 13.9% of women were unemployed compared to 9.8 male colleagues. In the secondary education category, women with a high school graduation certificate were unemployed at 32%, when the corresponding rate for males was 21%.

Eurostat data reveal that only 33% of senior executives overall in the EU in 2016 were women. In no member state women in positions of responsibility were more than men. The best performing countries are rather surprising. The highest rates were recorded in Latvia (47%), Poland and Slovenia (41%), Lithuania, Hungary and Sweden (39%). On the other hand, the lowest is found in Luxembourg (18%), the Czech Republic, the Nether-

lands and Greece (25%). As for the gender wage gap, no equality of wages has been achieved in any of the 28 Member States. The largest differences are in Estonia (26.9%), Czech Republic (22.5%), Germany (22%), Austria (21.7%) and Britain (20.8%). On the other hand, there is a much smaller gap in Luxembourg, Italy (5.5%), Romania (5.8%), Belgium (6.5%) and Poland (7.7%). For Greece, no data are available, as highlighted in the Eurostat report.

6.1 Greece's Policies and Institutional Framework in Gender Discrimination

Greece, like any other European country has laws and regulations to avoid discrimination. Not only gender wage discrimination, but any other form as well. Many laws have been voted to protect women and other minorities as well. The most important of them is the "equal treatment law" which apply to all persons in the private and public sector as regards the conditions of access to employment in general, access to all types and levels of professional orientation of vocational training and education, the status of a member to participate in any trade union wishes, the status of a member to participate in any contract wishes, social security healthcare etc.

European Social Survey has conducted a survey that shows the reasons of discrimination in Greece. We see that gender discrimination is in the fourth place with 8,4%. The highest rates are in ethnicity and color, whereas the lowest in sexual orientation and disability. We understand that gender is not the main reason for discrimination in Greece. In fact, it is evident in fewer than 10% of the cases.

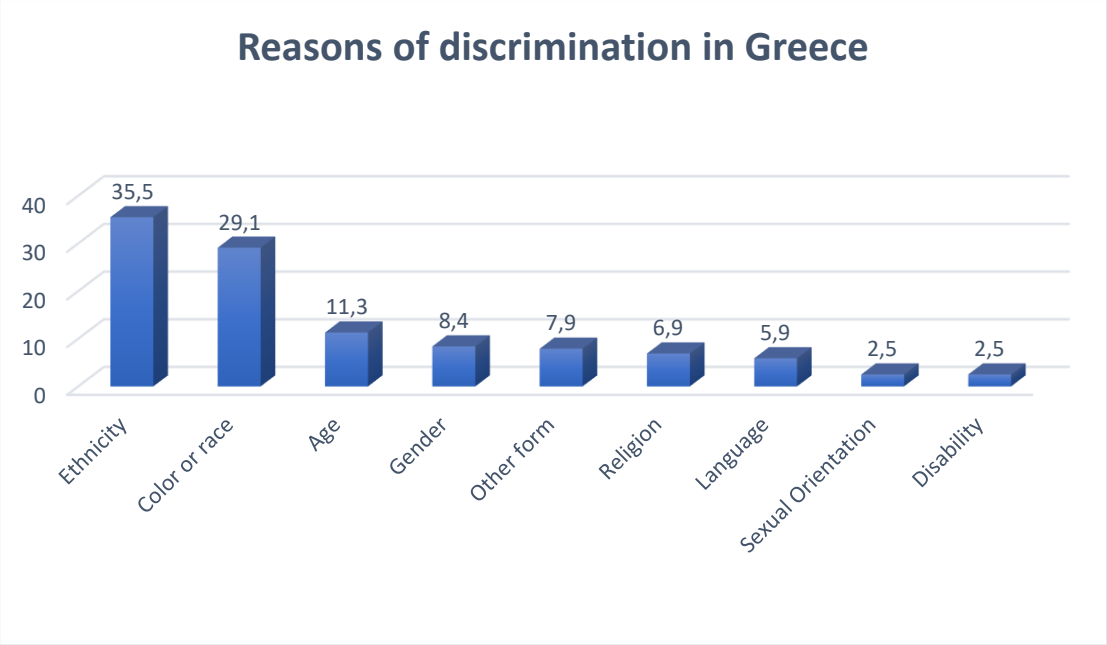

Figure 25- Reasons of discrimination in Greece. Source: D. Balourdos, N. Sarris, A. Tramountanis, M. Chrysakis, 2014, " Groups and Discrimination in the Labor Market".

ESS runs such surveys every two years. The data collected are from 2009 (first round) and 2011 (second round). Hence, we can see how these forms have been formed in two years' time.

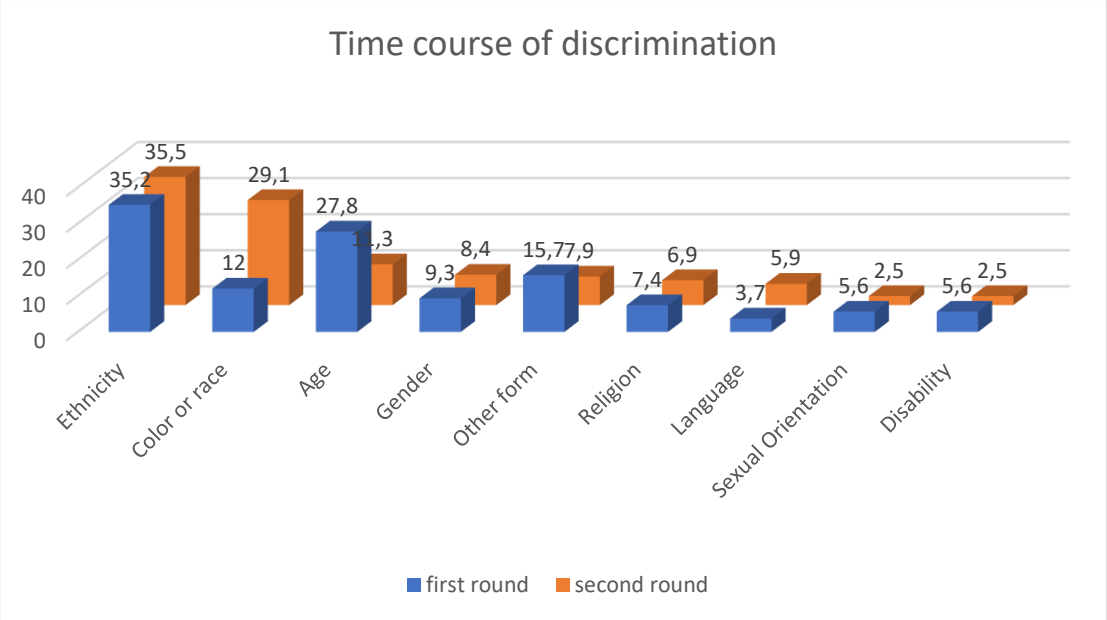

Figure 26- Time Course Discrimination. Source: M. Balourdos, N. Sarris, A. Tramountanis, M. Chrysakis, 2014, " Vulnerable Social Groups and Discrimination in the Labor Market".

From the diagram we see that ethnicity is the first reason of discrimination, in Greece with race having dramatically increased. All other categories like gender religion have moved slowly with no big deviations. We conclude that Greece is totally complied with the standards of other European countries in discrimination terms as ethnicity is a more vulnerable variable than gender or any other form.

6.2 Greece's new, concerted and systematic efforts for gender equality in employment.

A recent initiative by Greece on gender equality in employment is the 2008 electoral law with the candidate's quota. At the same time, seminars are being promoted to train and facilitate the participation of women in local self-government. There are also several programs that support female participation in the public sector. One of them is "Integrated Interventions for Women" which has already helped over 9000 women. Not to mention, the program "National Policy Priorities and Action Lines for Gender Equality" – a four-year program indenting to promote female entrepreneurship, which started in 2004 and ended in 2008. There are also many other programs from NSRF 2007-2013, which do not apply now, so there is no reason to refer to them (Baldourdos, Chrysakis, 2012).

The positive evaluation of the above efforts by competent bodies as well as by representatives of women, confirms that Greece is making constant progress towards the right direction. It should be noted that the achievement of specific objectives in order to achieve measurable results is the result of using all the promotional mechanisms.

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7. Conclusions

Before reaching our conclusions, it should be mentioned that all the conclusion were drawn based on the bibliography seen below. Some of them however are subjective. My personal point of view is also included.

Having read all the relevant theoretical and non-theoretical literature, we conclude that the discriminations between the two sexes still exist today, but to a much-limited extent than they used to be in the past decades. As the years have gone by, women gained more political rights, they have been admitted to higher education, and - although they are still below men, in career prospects - they managed not only to secure their entry into more places on the labor market but also to close their ranks pay gap. As a result, firms have profited in the long run, and women have developed many skills.

Nevertheless, the wage gap - to a much lesser extent - remains. The reasons are to some extent known. Perceptions of employers, customers, and employees, stiff salaries, incomplete information are only a few of the reasons, with the most important of them being human capital. Because of human capital, as we have seen, a large part of the distinction is explained.

An important determinant of the wage gap is the professional and sectoral segregation between the two sexes. To shrink the gap policy measures should be taken that will facilitate the reduction of employment segregation based on sex, improving for example pay for the professions and industries engaged primarily females. Although the level of education between the two sexes has now equalized, the different educational choices of men and women as to the different sciences, still affects the wage gap against women. Closing the gender pay gap requires a revision of the wage setting methods to eliminate their direct discrimination.

As far as Greece is concerned, we see that it follows the same path as the other European countries. Discrimination focuses more on ethnicity and color than on gender. However, both Greece and the other European countries have adopted practices to reduce labor market inequalities with gender form being one of the categories that have produced results.

In conclusion, I would say that it is certainly a positive sign of economic cultural and social progress that gender discrimination in the labor market is declining. The sources and causes of wage discrimination are many and complicated; therefore, they cannot be

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dealt with effectively unless the actions taken will deal with the elimination of causes. And here is the most interesting part. I am a subscriber to the belief that, it is impossible to eliminate all the causes. Even if we stop segregating the occupations women will continue getting married and pregnant. It is inevitable that they will invest in less human capital. The society has already helped those women with parental leaves. What I am trying to say, is that societies have come up against the problem of gender discrimination and have done -and still do- many things to eliminate the problem. But, in 2018 in modern societies, it is up to the women to change the situation and assert claims in the labor market. To my way of thinking, they should stop implementing the "crowding out" effect. That in combination with the increase of educational attainment helps women to have more chances to build a more equal working environment for them. They should take initiatives and stop segregating the occupations if they want "gender equality". Yet, we should not forget that it is very reasonable to have differences between the two sexes due to their genetics and the "nature" itself. Besides, it would be very abnormal if there would be no inequalities between the two genders whatsoever.

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