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Analysis of Gender Pay Gap in Different Sectors of the Economy in Kazakhstan*

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Abstract

This study aims to analyze existing concepts of gender stereotypes and gender differences in wages, defining gender pay gap determinants, and to evaluate the level of discrimination against women in Kazakhstan. This paper begins by reviewing trends in gender stereotypes and gender segregation during the past several decades. In this research, authors propose the methodological tools for presenting a standard form of evaluation of gender pay gap. The developed methodological tools will allow providing authentic and formal analysis on gender pay gap and identifying the main determinants of gender pay differences. Further, the obtained results showed the distribution of wage gap in Kazakhstan's regions and the Duncan's dissimilation index allows us to trace the dynamics of changes in the professional structure between men and women. According to the results, gender pay gap is narrowing with the reduction of the job level and discrimination is related to differences in human capital and education. Wages in the industrial sector are higher for men than for women, because men's professions are characterized by severe and unhealthy working conditions. In addition, employers prefer male managers, but if they take woman managers, they give them salary 3 times less.

Keywords: Gender, Gender Economy, Gender Policy, Segregation, Wage Gap, Kazakhstan.

JEL Classification Code: J16, J31.

1. Introduction

At present, there is a cardinal rethinking of the social role of women in society and the need arises to find measures to ensure their rights and opportunities. Ensuring gender equality is one of the factors of economic growth and the achievement of sustainable development of the country and the region. It has been established that equal involvement of women in political, social, economic life of a country is

considered as a necessary condition for achieving progress in socio-economic growth, solving of urgent cultural, social, ethnic and other issues. Thus, one of the main tasks is to ensure equality between a man and a woman in all spheres of life and work, including in the issues of the gender pay gap.

These days, gender differences in wages are among most debated topics of socio-economic research. This is proved by numerous scientific studies and publications, as well as numerous reports done by well-known international research organizations (IMF, UN, OECD, World Bank, etc.) for different countries. Herewith a vast number of the researches are focused on gender analysis of women and men in labor market, as majority of men and women are hired workers for whom earnings and job opportunities to a large extent determines their economic situation. The key motivation behind gender equality research in the labor market has been the long-term differences in the average wage levels between women and men in many countries. Gender pay gap may lead to a number of diverse social and economic consequences

The relevance of this research is due to the fact that today a woman is actively developing and goes beyond the family

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environment. The current position of Kazakhstani women in the labor market is characterized by the fact that women's labor is very much in demand, but its payment remains low. Therefore, for Kazakhstan, the gender pay gap has been and remains the main "female gender issue". Female labor has its own peculiar features chief among which are based on the prevalence of ideas about "female professions" and the "dual responsibility" of women. In that regards there is a need in reproducing gender stereotypes, which determine and change radically the relation to female labor not only at the macro, but also at the meso and micro levels. With this major problem, it remains necessary to find valid methods and ways to influence the motivation of company executives and employees.

In order to develop medium-term and long-term measures on gender stereotypes changing in wages there must be determined at the theoretical and empirical levels the ways relationships could be developed between managers and employees, so that both did not depend on the "floor effect" when choosing an employee. In this sense, it is very important to identify to what extent existing gender stereotypes ensure successful inclusion of women in labor activity, determine which stereotypes hinder the development of women's professional knowledge and skills, and also to what extent Kazakhstani labor legislation supports gender stereotypes in the labor market.

The purpose of this research is to analyze of existing concepts of gender stereotypes and gender differences in wages, defining of gender pay gap determinants, and to evaluate the level of discrimination against women in Kazakhstan. This paper is among the scientific works, which identify primary factors of gender wage differences between men and women, and analyze the level of gender inequality and discrimination. Therefore, in accordance with the goal we have identified the following tasks: Firstly, explore existing concepts of gender stereotypes and gender pay differentials. Secondly, identify the determinants of gender wage gaps in Kazakhstan. Thirdly, assess the level of discrimination of women in wages and compare the conclusions researched with estimates obtained in other works.

The work is framed in the following way. The first section includes literature review of current foreign literature on gender stereotypes and gender pay gap. The second section introduces methodology and data used in this paper. The third section presents the results of the research. The fourth section contains conclusion and proposals for future research on this topic in Kazakhstan.

2. Theoretical Background

The literature review of studies on gender stereotype problems and gender pay gap will cover the results of research conducted by scientists from foreign and neighboring countries. The review to a greater extend will be conducted not according to the territorial principle (country of publication), but according to the problem-thematic (orientation, conceptual basis of the study). In the proposed literature review, the task is to explore conceptual framework and basic directions of the problem of gender wage differences.

In 1922, Lippmann in his book ("Public opinion") for the first time gave a definition of the term "stereotype". According to him, stereotypes are preconceptions that strongly control the whole process of perception, which label certain objects as familiar or unfamiliar, so that barely familiar ones seem well known, and unfamiliar ones are deeply alien (Lippman, 1922). Lippman outlined the functional component of the influence of stereotypes on the perception and awareness of the subject itself.

Some scientists defined typical masculine image, as a set of character traits, related to non-restrictive social style competence, behavior, activity and rational ability (Mckee & Sheriffs, 1957). On the other hand typical women image they pictured as communicative and social skills, support and emotional warmth (Goffman, 1979). Therewithal in their studies they acknowledged as the negative masculine characteristics rudeness, authoritativeness, arrogance, excessive rationality. The women were described as "submissive and dependent" in the developing countries was found (Kinnaird & Hall, 1994). In the result, the authors have come to the conclusion, that more positive characteristics are acknowledged to men than women, more over men are more consistent in defining masculine qualities than women in defining feminine.

Some scientific researches on gender stereotyping about capability of men and women (Kisler, 1975; Goldberg, 1983; Kunda & Thagard, 1996). They have found that, in accordance with gender stereotypes task performance, success achieved by men are mostly due to their capability, whereas the same success achieved by women is regarded as efforts, luck and so on (Pheterson, Kiesler, & Goldberg, 1971). At the same time, according to Kissler, the factor of "effort" in men is regarded as a stable, necessary condition of natural male need in achieving, as means of barrier and difficulties overcoming, arising in the way of a goal achievement (Kisler, 1975). In cases where a woman performs so-called "male work", she performs it competently, then in the perception of others she deserves more respect than men (Goldberg, 1983).

Certain authors have proved that pertinently there are no fundamental and inherent differences in psychological characteristics between men and women in many spheres, where these differences were recognized (Sapiro, 1983; Sigel, 1996; Kaufmann & Petrocik, 1999). The gender stereotype in sex-role behavior, whereby women are more dependent on men (Maccoby & Jacklin, 1974). In addition to that they have proved that current characteristic is very prominent at an early age for children of both sexes. Then such character trait becomes a steady an individual as it is supported by social expectations of surrounding persons. Different studies apply neoclassical theory to explain of professional segregation between women and men (Zellner, 1972; Polachek & Kamalich, 1985). They suggest that women who plan temporary work maximize earnings if they choose occupations with less salary than men.

The greatest amount of empirical works on gender stereotypes and discrimination in the labor market is associated with the difficulty of accessing the necessary information about employment, wages and other forms of remuneration in individual enterprises (Blackaby, Booth, & Frank, 2005; Blau & Kahn, 2007). Thus, some scientists having used the information about the staff of a large trading company, have showed, that gender segregation in a firm arises from the fact that some entry points are intended for employees of the same sex only (Ransom & Oaxaca, 2005). Besides the intracompany intensity of women labor mobility is much higher than of men.

There also should be highlighted the statistical discrimination, which is based on differences in the average level of employees performance. Since many of the employers have the opinion, that women productivity is lower compared to men. This leads to discrimination in underestimation of wages and in hiring. Admittedly, such behavior of an employer is rational to a certain extent, as this way the employer minimizes own transaction costs. The existence of statistical discrimination has been proved by the data of many scientific researches. Thus, when a situation of hiring is simulated employers more often made a choice in favor of men-candidates, rather than women-candidates, although, both had the same formal characteristics (Nieva & Gutek, 1980). In the same way, it has been shown that research articles written by women, are most likely to be published if their editors do not know the sex of the author.

Studies of gender stereotypes in the market made it possible to determine not only employment opportunities for workers of different sexes, but also identified factors affecting the probability of their promotion along the career path. In particular, there are numerous scientific researches proving that exactly gender segregation is the basis of inequality in incomes of men and women. Consequently, the

analysis of causes and scales of gender segregation as well as the study of its consequences has a great meaning, because it allows to draw conclusions as to which measures of influence on the sphere of employment and the labor market can be most effective for leveling gender disproportions in society.

In general, the economic theory of gender segregation presence, as a result of the behavior of employers, is explained by several reasons: Firstly, this is the underinvestment in the human capital of women in comparison with investment in human capital of men due to shorter expected return on financial investments (Becker & Lindsay, 1994). As a result, women and men have the opportunity to occupy jobs that impose fundamentally different requirements on the professional qualification characteristics of an employee. Secondly, the discriminative practice of hiring and promoting of women, which leads to the fact that workers of different sexes are concentrated on different positions (Wirth, 2001; Kireyeva, 2014). Thirdly, one of the critical moments of gender segregation is "glass ceiling" model for women. The concept "glass ceiling" describes employment practice of women for positions, which do not imply further career advancement (Coate & Loury, 1993). Such a manifestation is typical enough for many CIS countries, including Kazakhstan.

There through above mentioned causes have an impact of the sphere of employment and lays the foundation for gender inequalities in earnings. At the same time, discrimination against women is detrimental to the economy due to the incomplete use of women's abilities, reducing the attractiveness of career growth for women, which has a negative impact on their work.

According to the literature review, it can be seen that there is a dual labor market and there is still discrimination in employment based on gender. Representatives of various trending of economic mind describe the mechanism of dual labor market differently. The presence of two-sector model in the labor market means that mobility and rivalry of work force have restrictive importance and the labor market cannot be regarded as one. It seems reasonable to note two important points regarding discrimination in the labor market. The first is the presence of a preconceived opinion, intra-family separation and sex-role behavior of women in relation to men. The second is the employer manifestation of rationality in the absence of access to the necessary information about employment, which directly leads to the statistical discrimination.

3. Research Methods

A diverse methodology has emerged in the empirical literature on the subject of research on gender pay gap

(Oaxaca, 1973; Blinder, 1973). Methodology in a broad sense is called the system of principles of scientific research, or the study of the method. Methodology in the narrow sense means a set of research procedures, techniques and methods, including methods for collecting and processing data.

In general, existing diverse methodology for studying gender relations is reduced to criticism of essentialism, which is based on the thesis of the biological characteristics of men and women, determining the nature of gender relations (Blinder, 1973; Weichselbaumer & Winter-Ebmer, 2005; Mohan & Ruggiero, 2007; Bowlin & Renner, 2008). In our opinion, in the study of gender wage gaps it is necessary to use a whole set of approaches. Most of the works on gender wage differentiation is based on modeling wages with a further decomposition of earnings by sex. This approach we use in this scientific study. Thus, the research methodology is based on an econometric assessment of the wage equation with the inclusion of a number of regional characteristics.

For more accurate assessment of gender segregation in the labor there are used different indexes of segregation, information and uniformity (Duncan, 1961). Most widely used is the Duncan dissimilation index. It shows employee share of the same sex, when changing the sector of employment, for example, when men switch to education, healthcare, and the structure of employment becomes gender-neutral, while workers of the opposite sex remain at their workplaces.

Thus, in our scientific research, we will use the Duncan Index of Dissimilarity for calculations. This index measures occupational segregation in the labor market between the sexes. First of all the female employment index must be calculated (F_i), which shows to what extent is the actual distribution of women's employment in the industry is balanced to the shares of industries in the structure of total employment, which can be represented by the following formula (1):

$$F_i = (FV / FE) * 100\% \quad (1)$$

where F_i – female employment index;

FV – number of women employed in the industry;

FE – the number of women employed in the economy as a whole.

Next, the male employment index (M_i) must be calculated, which shows how the actual distribution of male employment in the industry is proportional to the shares of industries in the structure of total employment, which can be represented by the following formula (2):

$$M_i = (MV / ME) * 100\% \quad (2)$$

where M_i – male employment index

MV – number of men employed in the industry;

ME – the number of men employed in the economy as a whole.

Accordingly, the Duncan dissimilation index (ID) is calculated by summing over all professional groups of absolute values of the differences in the share of employment in a given professional group in the total employment of each of the compared groups. So, Duncan's dissimilation index (DDI) is calculated by the following formula (3):

$$DDI = 0,5 \sum (F_i - M_i) \quad (3)$$

where DDI – Duncan dissimilation index;

F_i – female employment index;

M_i – male employment index.

The Duncan dissimilation index will indicate what percentage of the workers in each of the compared groups should change jobs to eliminate occupational segregation. If the index is equal to 0, then each group is equally represented in all professions or sectors of economic activity. The developed methodological tools will allow providing authentic and formal analysis on gender pay gap analysis and identifying the main determinants of gender pay differences. Proposed indicators are notable for availability, simplicity of calculation and the possibility of analyzing indicators at the regional level. At the same time the identified methodological approaches are not identical, but they are interconnected with each other and have a three-level gradation. The developed methodology will allow to ensure unbiased and realistic evaluation of the problem in different sections, thus obtaining a multidimensional, objective understanding of the processes occurring in the given area.

4. Analysis and Results

The difference in wages between men and women is determined as a difference between average monthly salary between men and women, i.e. as a percentage of men's average monthly salary. Gender politics of the Republic of Kazakhstan leads to situations in which "emancipation" among women, expands for them the repertoire of possible roles and lifestyles, but affects men little. As a result, the role of "breadwinner" is the normative male model and does not imply equal participation of men in homework, childcare and nurturing.

Until recently, gender-sensitive wage statistic was absent. Now there is a sufficient amount of static data to conduct a full analysis. In the international context, according to the World Economic Forum (WEF), Kazakhstan in 2018 took 60th place in the global gender equality ranking. According to this rating, opportunities for women in the labor market in Kazakhstan (chances for equal wages and careers) make up 70% of men's opportunities.

Data from the Statistics Committee of the Ministry of National Economy of Kazakhstan allowed us to estimate gender differences in wages. According to the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan, in 2017 the difference in wages between men and women was 33.3% in favor of men. Moreover, the tendency to reduce the gap between wages is almost not observed. For example, in 2010 men earned more than women on average by 33,9%. Thus, according to the statistics of Kazakhstan, there is still a serious gap between men and women in the labor market.

Figure 1 summarizes the data on wages between men and women in the regions of Kazakhstan for 2010-2017.

According to the presented data for 2010-2017 it is clear that despite the significant progress made by Kazakhstan towards reducing gender inequality since the implementation of the President's Message to the People of Kazakhstan "Strategy Kazakhstan-2050 - New Political Course of the Established State", there are significant

differences among Kazakhstani regions. The regional factor was taken into account by highlighting a number of regions. In some regions of Kazakhstan, women are paid almost on a par with men. Thus, in the regional context, the smallest wage gap between men and women was noted in two regions - North Kazakhstan and Almaty regions. However the largest wage gap between men and women was recorded in the western regions of Kazakhstan - Atyrau and Mangystau regions. At another point, the smallest salaries for 2017 are for women living in Zhambyl (88 400 tenge) and South Kazakhstan regions (90 000 tenge). It should also be noted that there is a positive effect from agglomeration centers, such as the city of Almaty and Astana. Considering that in these regions wages for women are above average.

Such inequality in wages is related to ethno-cultural characteristics and predominance of "male professions" in western regions of Kazakhstan. Traditionally, "male professions" include milling workers in oil refining, mechanical engineers, chemical process engineers, who are characterized by the presence of harsh and unhealthy working conditions. Additionally, many employers are of the opinion that women's productivity is lower than that of men. This leads to underestimation of wages and discrimination in hiring. Further, in Figure 2 we propose to consider the distribution of wages in the labor market of Kazakhstan by the types of economic activity for 2010-2017.

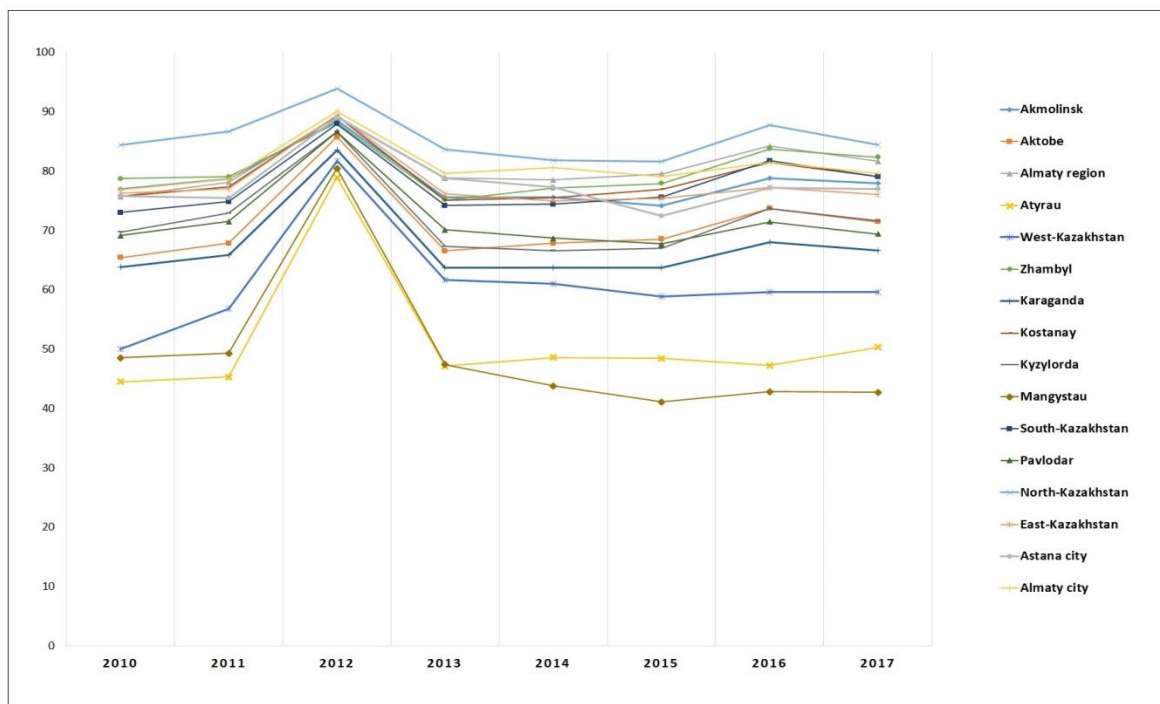


Figure 1 : Dynamics of wages of men and women in Kazakhstan for 2010-2017

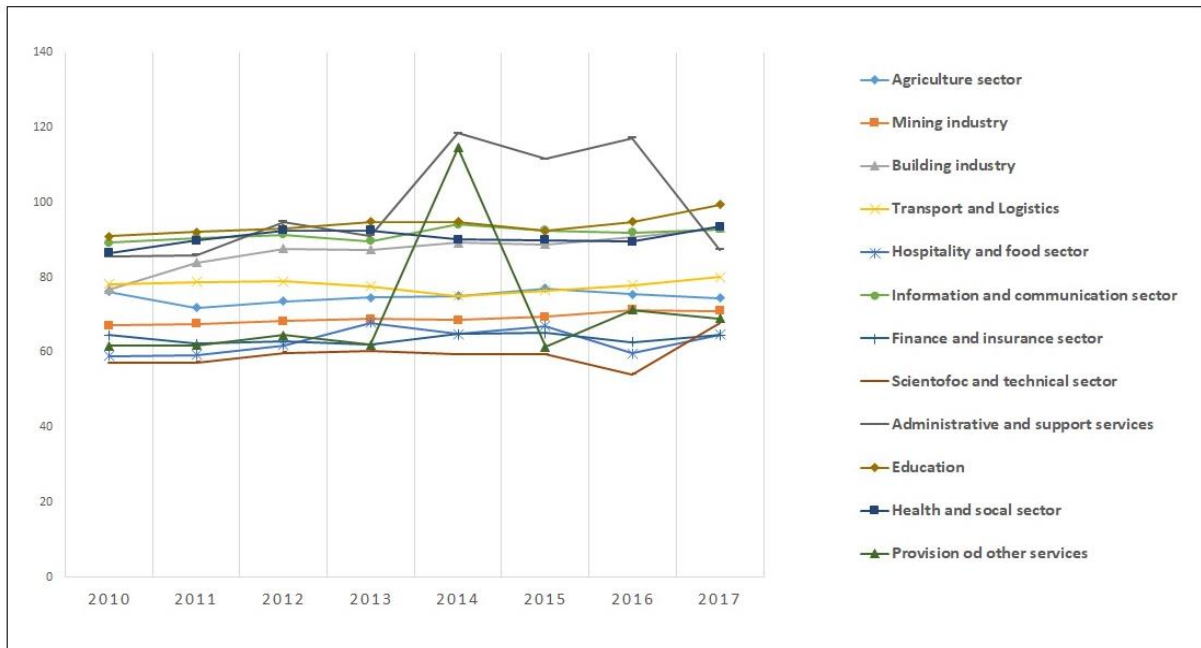


Figure 2: The dynamics of wages for men and women in the different sector of the economy

According to the given data it is clear that difference in wages between men and women on average made up 40-50% in favor of men. Thus wise, the largest gender pay gap for 2010-2017 was in four sectors: art, entertainment and leisure; financial and insurance sectors; professional, scientific and technical sectors; accommodation and food services. Therefore, the smallest gender wage gap was recorded in the other four sectors: administrative and support services; education; information and communication; health and social services.

The distribution of gender wage differences by economic activity has a number of features. Firstly, a woman has to choose low-paid areas, such as health care, education, and social services. Secondly, the highest level of underpayments is observed among art workers, professional and scientific and technical activities. Thirdly, inter-industry differences in wages among men are higher than among women. Salaries in financial and insurance sectors for men are 3.5 times more in comparison with the field of education. On the one hand, this may be the reason for the separation of jobs into “male professions” and “female professions”. On the other hand, this may be the reason for the uneven distribution of women and men in the economy, i.e. manifestation of gender occupational segregation.

Nevertheless, it seems appropriate to assess gender differences in labor remuneration using the methodological tools previously proposed by us. To assess the degree of gender segregation in the Kazakhstan labor market, we use

the Duncan Index (DDI). As we have noted earlier, the Duncan index is symmetrical, therefore the conclusion obtained is true for both men and women at the same time. Mathematically, Duncan’s dissimilation index is determined by summing over all professional groups the absolute values of the percentage differences between men and women in each profession, and by dividing this amount in half.

It is evident that as of 2010 to 2017 the Duncan index has been changing which is indicate by the presence of a process of gender segregation in the Kazakhstan labor market (Figure 3).

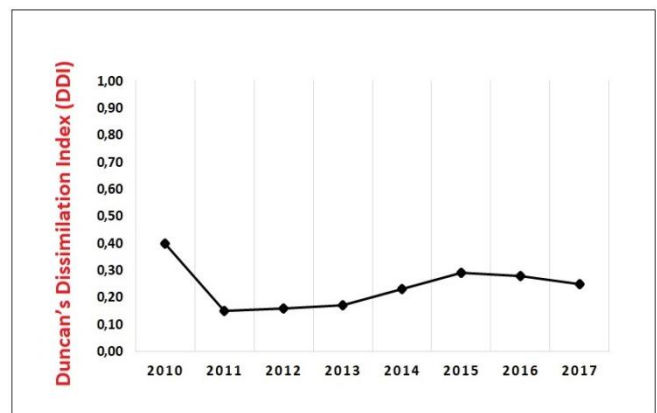


Figure 3: Dynamics of the level of gender segregation in Kazakhstan

The summary results of the calculation of the Duncan index led to the following conclusions: Firstly, if in 2010 the amount of the shares of women and men who would have to change the sector of employment in order to achieve gender-equal distribution in the economy was 40%, in 2017 it is 26%. Secondly, the Duncan index has one very important property - it allows us to trace the dynamics of changes in the professional and sectoral makeup of men and women. The data obtained indicates positive trends in the field of gender policy in Kazakhstan. However, full integration will be achieved if 26% of men go into feminized employment, or if 26% of women go into employment dominated by men.

5. Conclusions

The problems, which related to the study of gender stereotypes and gender gaps in the labor market are quite extensive, dynamically developing and cover many areas of society. Generally, according to the data obtained, women's wages in Kazakhstan are on average 30% of men's wages. After econometric analysis and using the methodology of the wage gap (Duncan's dissimilation index), several important factors of this gap were identified. Thus, the work carried out confirms that gender discrimination in employment is the most important factor in the existing gender wage differences.

In general, the analysis of the distribution of gender wage gaps has led to the following conclusions. Firstly, the gender pay gap is reduced with the reduction of the job level: it is minimal for the general group of workers and employees, it is reduced with the transition to the middle and higher level of qualification. Secondly, discrimination is linked to differences in human capital and education. Wages in the industrial sector are higher for men than for women, because men's professions (milling in oil refining, mechanical engineers, chemical technologist) are characterized by severe and unhealthy working conditions. This situation is typical not only for Kazakhstan, but also for most other countries. Thirdly, the Duncan's dissimilation index allows us to trace the dynamics of changes in the professional and sectoral structure of men and women. The data obtained indicate positive trends in the field of gender policy in Kazakhstan. However, full integration will be achieved if 26% of men move into feminized employment, or if 26% of women move into male-dominated employment

If we compare with the indicators of number of countries, the situation is not in favor of Kazakhstan. This is evidenced by the data of the global ranking of gender equality of the WEF. Thus, in Kazakhstan, income equality between men and women lags behind developed economies by at least

10-12 years. For example, in Norway, Sweden, Iceland and Finland, women and men who perform the same work receive the same salary.

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