IRSTI 331(574)

Yemelina N.K.[1], Omarova A.T.[2], Kurmanalina A.K.[3], Grelo M.F.[4]

[1]C.e.s., department of higher mathematics, Karaganda Economic University of Kazpotrebsoyuz, Kazakhstan, Karaganda, e-mail: yemelina_n@mail.ru
[2]PhD, management and innovations department, Karaganda Economic University of Kazpotrebsoyuz, Kazakhstan, Karaganda, e-mail: ainuraphd@mail.ru
[3]C.e.s, department of banking management and financial markets, Karaganda Economic University of Kazpotrebsoyuz, Kazakhstan, Karaganda, e-mail: anar68@mail.ru
[4]PhD, Professor, department of management, University of Santiago de Compostela, Spain, Santiago de Compostela, e-mail: mf.grela@usc.es

PROBLEMS OF GENDER INEQUALITY IN FORMING WAGES IN THE REPUBLIC OF KAZAKHSTAN

In this article, problems of wage differentiation by gender and gender segregation in the Republic of Kazakhstan had considered an analysis of factors of wage differentiation between workers and women had presented. The reasons for the differences in people's earnings are complex and contradictory. The purpose of this work is to sanctify the theoretical aspects of the differences in wages; conduct a selective review of the principles of empirical analysis, which helps establish factors affecting the level of wages; to assess the differences in wages, taking into account the gender aspect. With the help of the earnings function, the return on education and the number of years of work experience are determined, at which the maximum of the logarithm of earnings for both sexes had reached. The econometric tool used in analyzing the determinants of wages is not only quantifiable variables, such as the level of education and work experience, but also dummy variables that allow estimating the differences in salary levels between males and females. The results of the study allowed the authors to establish that the work experience and the duration of training have the same effect on the logarithm of wages in both men and women. The difference in wages between men and women in the Republic of Kazakhstan is due, first, to the distribution of labor between sectors and sectors of the economy.

Key words: human capital, wages, gender inequality, gender segregation, discrimination, earnings function, regression model.

Емелина Н.К.[1], Омарова А.Т.[2], Курманалина А.К.[3], Грело М.Ф.[4]

[1]э.ғ.к., жоғары математика кафедрасы, Қазтұтынуодағы Қарағанды экономикалық университеті, Қазақстан, Қарағанды қ., e-mail: yemelina_n@mail.ru
[2]PhD, инновациялар және менеджмент кафедрасы, Қазтұтынуодағы Қарағанды экономикалық университеті, Қазақстан, Қарағанды қ., e-mail: ainuraphd@mail.ru
[3]э.ғ.к., банк менеджменті және қаржылық нарықтар кафедрасы, Қазтұтынуодағы Қарағанды экономикалық университеті, Қазақстан, Қарағанды қ., e-mail: anar68@mail.ru
[4]PhD, профессор, менеджмент кафедрасы, Сантьяго де Компостела университеті, Испания, Сантьяго де Компостела, e-mail: mf.grela@usc.es

Қазақстан Республикасында жалақыны қалыптастырудың гендерлік теңсіздік мәселелері

Мақалада Қазақстан Республикасында гендерлік сегрегация және жалақы мәселелері қарастырылды, жұмыс істейтін ерлер мен әйелдер арасындағы жалақыны саралау факторларына талдау жүргізілді. Адамдардың табыстарындағы айырмашылықтардың себептері күрделі және қарама-қайшы. Бұл жұмыстың мақсаты жалақыдағы айырмашылықтардың теориялық аспектілерін ашу; еңбекақы деңгейіне әсер ететін факторларды анықтауға көмектесетін эмпирикалық талдау ұстанымдарына таңдамалы шолу жүргізу; гендерлік аспектіні ескере отырып, жалақыдағы айырмашылықтарды бағалау. Кіріс функциясы арқылы оқу барысында білімін практикада қолдана алуы және де жұмыс тәжірибесінің жылдары анықталды, мұнда екі жыныста да табыстың

логарифмі ең жоғары деңгейге жетеді. Жалақының детерминанттарын талдауға қолданылатын эконометрикалық құрал – білім мен жұмыс тәжірибесінің сандық мәнді айнымалылары ғана емес, сонымен қатар еркектер мен әйелдер арасындағы жалақы деңгейлеріндегі айырмашылықтарын бағалауға мүмкіндік беретін фиктивті айнымалылар. Зерттеу нәтижелері авторларға жұмыс тәжірибесі мен оқыту ұзақтығы ерлер де, әйелдер де жалақы көрсеткішінің логарифміне бірдей әсер ете алатынын анықтауға мүмкіндік берді. Қазақстан Республикасындағы ерлер мен әйелдердің жалақыларындағы айырмашылық бірінші кезекте экономиканың салалары мен секторлары арасындағы еңбектің бөлінуіне байланысты.

Түйін сөздер: адами капитал, жалақы, гендерлік теңсіздік, гендерлік сегрегация, кемсітушілік, кіріс функциясы, регрессионды модель.

Емелина Н.К.[1], Омарова А.Т.[2], Курманалина А.К.[3], Грело М.Ф.[4]

[1]к.э.н., кафедра высшей математики, Карагандинский экономический университет Казпотребсоюза, Казахстан, г. Караганда, e-mail: yemelina_n@mail.ru

[2]PhD, кафедра менеджмента и инноваций, Карагандинский экономический университет Казпотребсоюза, Казахстан, г. Караганда, e-mail: ainuraphd@mail.ru

[3]к.э.н, кафедра банковского менеджмента и финансовых рынков, Карагандинский экономический университет Казпотребсоюза, Казахстан, г. Караганда, e-mail: anar68@mail.ru

[4]PhD, профессор, кафедра менеджмента, Университет Сантьяго де Компостела, Испания, Сантьяго де Компостела, e-mail: mf.grela@usc.es

Проблемы гендерного неравенства в формировании заработной платы в Республике Казахстан

В данной статье рассмотрены проблемы дифференциации заработной платы по половому признаку и гендерной сегрегации в Республике Казахстан, представлен анализ факторов дифференциации заработной платы между работающими мужчинами и женщинами. Причины различий в заработках людей сложны и противоречивы. Цель данной работы – осветить теоретические аспекты различий в заработной плате; провести выборочный обзор принципов эмпирического анализа, который помогает установить факторы, влияющие на уровень заработной платы; оценить различия в оплате труда, учитывая гендерный аспект. С помощью функции заработков определены отдача от образования и стажа работы, при котором достигается максимум логарифма заработков для обоих полов. Эконометрическим инструментом, используемом при анализе детерминант заработной платы, являются не только количественно измеримые переменные, такие как уровень образования и опыт работы, но и фиктивные переменные, позволяющие оценить различия в уровнях заработной платы между индивидами мужского и женского полов. Результаты проведенного исследования позволили авторам установить, что опыт работы и продолжительность обучения имеют одинаковое влияние на логарифм заработной платы как у мужчин, так у женщин. Разница в заработных платах между мужчинами и женщинами в Республике Казахстан объясняется, прежде всего, распределением рабочей силы между отраслями и секторами экономики.

Ключевые слова: человеческий капитал, заработная плата, гендерное неравенство, гендерная сегрегация, дискриминация, функция заработков, регрессионная модель.

Introduction

In recent years, the topic of gender differentiation of wages in the Kazakhstan labor market has become increasingly important. This is because in modern society, the main part of the economically active population are wage earners, for whom the labor income along with the possibility of finding employment largely determine their quality and standard of living. According to official statistics and scientific research, in most countries of the world there are differences in the average level of earnings between men and women, consisting in the fact that men earn more (Abaziyeva G.K. 2010, Oshchepkov A. 2007). The observed differences may be the result of discrimination against women in the labor market, but this is most likely due to women choosing a certain niche in employment. The uneven distribution of workers of different sex between sectors, sectors of the economy, professions and activities had called gender segregation (Maltseva I.O. 2007). It is based on the characteristics of work behavior of employees of different sex and the actions of employers in relation to these workers. Obviously, segregation occurs at the level of specific jobs, i.e. within the framework of domestic labor markets. The existence of gender segregation because of employers' behavior had explained by economic theory by several reasons:

– underinvestment of women in human capital in comparison with investing in the human capital

of men due to less expected period of return from financial investments, i.e. women and men have the opportunity to occupy jobs that present fundamentally different requirements for occupations.

– discriminatory practice of hiring and promoting women, which leads to the fact that workers of different sex are concentrated on different positions (Nazarova I.B. 2007).

Discrimination in any form is a manifestation of social injustice and requires its eradication, therefore, studies and justifications for the presence and intensity of this phenomenon require a comprehensive study.

From the point of view of the theory of productivity with the same level of human capital, a woman is less productive due to the additional burden of family responsibilities, which reduces her efforts at work and reduces productivity and, accordingly, wages (Blinder A. 1976, Berndt E.R. 2005). G. Becker showed that family responsibilities restrict women's access to such jobs, which involve business trips, regular processing, an unregulated work schedule, which, of course, hinders the growth of their wages. Justifying the lower productivity of women, he argued that with equal energy resources of men and women, the primary duty of a woman is to care for children, and for paid work, she has, accordingly, less energy than men (Becker G. 1971). That is, with the same hours of work and the same level of human capital, women on average will earn less than men. Women can save energy by looking for work that requires less intensity and is more compatible with household needs, but less paid (Becker G. 1981).

Since women on average tend to choose work with a more flexible schedule and less intensity, which is easier to combine with domestic concerns, then according to the theory of compensatory differences, the fee for these amenities is lower earnings and fewer opportunities for professional growth (Kalabihina I.E. 2008).

Often an employer underpays a woman not because she has a lower level of human capital, less productivity, but because she is a woman and a mother.

In the labor market, discrimination sources such as statistical and personal prejudices are distinguished (Stuken T.Yu. 2007). According to the statistical prejudice model, it is difficult for an employer to obtain true information about employee productivity, so he relies on other characteristics that are easier to determine: such as education, length of service, which correlate with performance. Using the fact of motherhood as a selection tool, the employer will pay the mother less regardless of the real level of her productivity, based only on the fact that the average level of productivity in this group is lower.

Discrimination on personal prejudice is similar to direct discrimination (Fedotovskaya T.A. 2007). It is because regardless of the productivity of women, the employer does not want to hire her or pays less because she is a woman.

The theory of discrimination explains the differences in wages between men and women, on the one hand, by differences in the average levels of their performance based on productivity, i. such measurable factors as education, age, profession, work experience, number of hours of work, firm size, region, industry, etc. On the other hand, there are also «inexplicable» factors that cannot be directly seen and measured and are the result of differentiation of workers by gender (Pastor F. 2007, Semykina A. 2005).

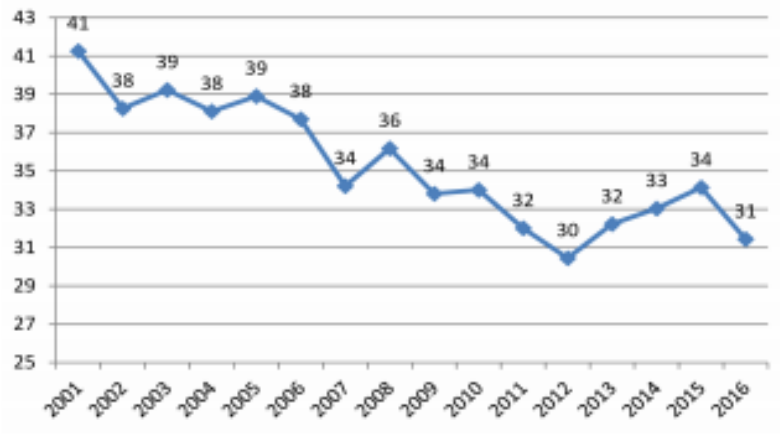
Results and discussion

According to the Committee of Statistics of the Ministry of National Economy of the Republic of Kazakhstan (Statistical Compendium «Remuneration of labor in the Republic of Kazakhstan», 2017), the wage gap between men and women in the dynamics is decreasing: in 2016, it was 31% compared to 41% in 2001 year (Figure 1).

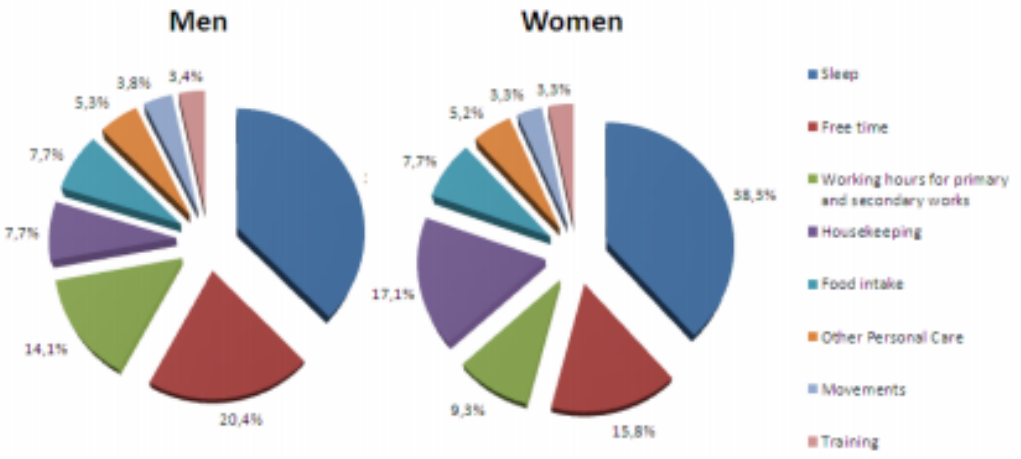
There are a number of reasons that affect the pay gap between men and women. In Kazakhstan, for example, the average length of a working week for women is lower than that of male workers, and women spend on average much more time on things like cooking and caring for children than men (Figure 2).

Another important characteristic of the status of women in the Kazakhstan labor market is the sectoral and occupational gender asymmetry of employment. In Kazakhstan, as in many other countries, there is both direct and feedback between the sectoral and professional gender structure of employment and the choice of the level and direction of education for men and women. According to data for 2017 at the level of higher education, men had dominated by the choice of technical specialties, while women had a large share of "educators", "economists" and "doctors" (Figure 3).

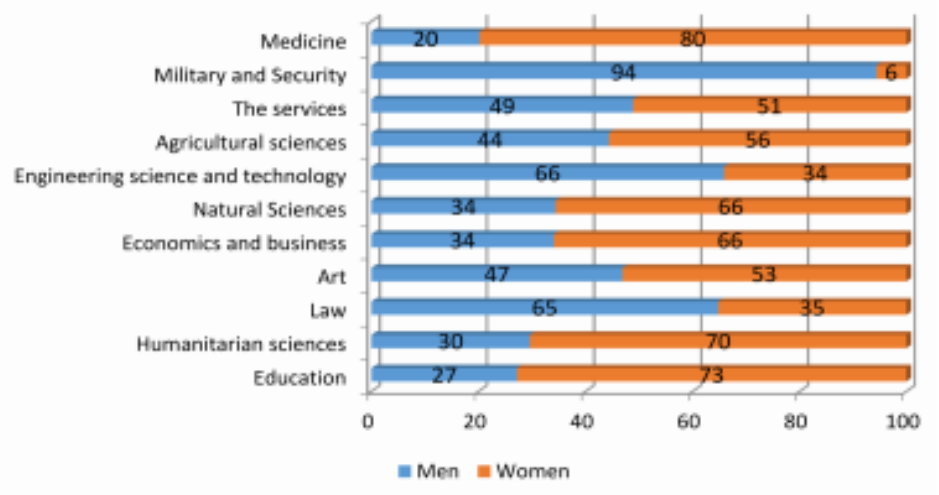
At the same time, gender disparity in the labor market in Kazakhstan has some distinctive features that have been inherited from the socialist economy. First, there is a high level of female employment in Kazakhstan. The share of women in the labor force in 2016 was 48.1% (Statistical Digest of «Women and Men of Kazakhstan», 2017).



Note: compiled by authors according to the Committee of Statistics of the Ministry of National Economy of the Republic of Kazakhstan
Figure 1 – The difference in wages between men and women in the Republic of Kazakhstan from 2001-2016, in %



Note: compiled by authors according to the Committee of Statistics of the Ministry of National Economy of the Republic of Kazakhstan
Figure 2 – Distribution of daily fund of time of the population of the Republic of Kazakhstan by sex in 2016, on average for the day of the week, in %



Note: compiled by authors according to the Committee of Statistics of the Ministry of National Economy of the Republic of Kazakhstan
Figure 3 – The share of university students in the sectoral specialization of educational institutions, at the beginning of 2016-2017 academic year, in %

Secondly, the level of education of women is not lower than the average level of men's education, and there is no doubt that in Kazakhstan there is equal access to education for men and women (Table 1).

Table 1 – Number of students trained by types of educational organizations at the beginning of 2016-2017 academic years

Types of educational organizations	Number of students, thousands of people		Distribution by sex, %	
	women	men	women	men
Total	1 964 749	1 970 511	49,9	50,1
General education schools	1 447 215	1 483 368	49,3	50,6
Technical and vocational education	230 647	258 279	47,2	52,8
Higher educational institutions	263 129	213 945	55,2	44,8
Master's courses	19 813	13 080	60,2	39,8
Doctoral studies	1 673	1 037	61,7	38,3
Source: Committee of Statistics of the Ministry of National Economy of the Republic of Kazakhstan				

In accordance with the theory of human capital (Schultz T. 1960, Becker G. 1964), which determines the factors of wages, the higher the investment in human capital (education, qualifications, etc.), the higher and the level of wages. One possible explanation for women's low wages is the lower average level of human capital, as evidenced by official statistics for many countries (UNECE, http://w3.unece.org). However, according to official statistics, in Kazakhstan, the level of education of women is higher than that of men (Statistical Digest «Women and Men of Kazakhstan», 2017).

Further gender analysis of wage differentials will be based on the official data of the household survey for 2015. This survey is annually carried out by the Committee on Statistics of the Republic of Kazakhstan (The Methodology of Sampling Design for the Living Standards Household Survey 2015). The survey was conducted on a quarterly basis and completed in January 2016. A sample survey of the living standards of households had conducted in all regions of the country and had based on the principles of voluntary participation of selected households. This technique meets the international standards of sampling and ensures high quality of statistical data. The information base for the formation of selective households is the housing stock register. The survey covered 12,000 households (0.3% of the population), comprising 42,232 individuals. Interviews had conducted in all 14 regions (regions) of the country and separately in two cities – Almaty and Astana.

Among the respondents, 50% of the male (8,818 people), 50% female (8,608 people), in this case only working individuals from the entire population are considered.

The sample characteristics of wages for men and women are presented in Table 2.

Table 2 – Numerical characteristics of the sample

Numerical characteristics of the sample	Monthly income of an individual, tenge	
	male	female
Average	150 992,6	117 337,9
Standard deviation	100 440,9	70 541,35
Minimum	1 794	2 500
Maximum	1 800 000	1 171 360
The range of variation	1 798 206	1 168 860
Mode	150 000	120 000
Median	128 652,5	105 000
Source: Committee of Statistics of the Ministry of National Economy of the Republic of Kazakhstan		

Thus, according to the survey of the sample population, it can be said that the average monthly income of women is on average 78% of men's income. The variation of wages relative to the average for men is higher than for women, and corresponds to 67% for the first, and 60% for the second. In addition, among male respondents, the variation between maximum and minimum wages exceeds this figure for female respondents by more than 1.5 times. For both men and women, the average income is higher than the median income. This suggests that most of the respondents receive a wage below the average.

The issues of wage modeling scientists began to deal with the middle of the last century. Were conducted and published thorough research on wage fluctuations, which are caused by both productivity differences and the effects of discrimination. These are the works of D. Einer and G. Kane (Einer D. 1977), D. Bloom and M. Killingsworth (Bloom D. 1982), G. Cain (Cain G. 1986), T. Johnson (Johnson T. 1978).

A common econometric approach to measuring the effects of discrimination in wages was developed by A. Blinder (Blinder A. 1973) and R. Oaxaca (Oaxaca R. 1973). This method is based on the assumption that, if there is no discrimination, estimates of the impact of workers' productivity on their earnings will be the same for all groups. Discrimination is revealed in the differences in the estimated regression coefficients. The differences are due not only to the shift (as with the inclusion of dummy variables), but also assume changes in the estimated slope coefficients.

We will estimate the difference in earnings between men and women, for this we modify the earnings function proposed by J. Mintzer, by adding to it the qualitative variable – the sex of the individual as an explanatory variable (Mintzer J. 1958, Mincer J. 1962). We obtain a model of the following form:

$$\ln Y = \beta_0 + \beta_1 S + \beta_2 EXP + \beta_3 EXP^2 + \beta_4 G$$

где

S – level of education or educational achievements;

EXP – the contribution of professional experience to human capital;

G – gender.

Using the data of the conducted household survey, the result is:

$$\ln Y = \underset{(335,13)}{10,2637} + \underset{(48,32)}{0,1037} S + \underset{(20,87)}{0,0284} EXP - \underset{(-19,67)}{0,0006} EXP^2 - \underset{(-33,56)}{0,2888} G, \quad R^2 = 0,163$$

where:

LnY – the natural logarithm of a person's wage for a fixed period of time.

S is the number of years of study, namely:

$S = 9$ – for basic secondary education (9-year school education, as a rule, is typical for people over 15 years old, taking into account that they go to school from the age of 6);

$S = 11$ – for secondary education (this takes 2 more years of training);

$S = 15$ for higher education (this takes 4 years);

$S = 17$ – for a master's degree, and it takes 2 years of training (for some specialties, to be exact S = 17 for higher education – for example, for medicine, but since they do not have a master's degree in any case, this assumption is correct also for them);

$S = 18$ – for seeking the degree of candidate of science (it was abolished a few years ago, with the signing of the Bologna agreement, and this degree was obtained by people who graduated from the postgraduate course of study for 3 years after the university and successfully defended their thesis) (Yemelina N.K. 2015).

EXP is a proxy variable, calculated as "Potential Experience" = Age of the employee – S – 6. In Kazakhstan, children begin their training when they are six years old.

G is gender: G=0, if individual is male; G=1, if individual is female.

The resulting regression equation is statistically significant, since the observed value of the Fisher test $F_{набл.} = 843,76$ more than critical $F_{крит.} = 2,37$. In the regression model, the t-statistics for the corresponding coefficients had indicated in brackets. As $t_{крит.} = 1,96$, so, according to Student's test, all coefficients of the equation are statistically significant. In particular, for the coefficient β_4 observed value t-statistics, equal to 33,56, exceeds the critical value $t_{крит.} = 1,96$, hence, the null hypothesis, consisting in the fact that men and women have the same earnings with the same education and experience (i.e. $H_0: \beta_4 = 0$) is rejected.

As a result, we have obtained that the logarithm of women's wages is less than that of men on 0,2888. The percentage change in the characteristics of earnings of females is determined by the formula

$(e^{\beta_4} - 1)$. Thus, the wages of the female individuals are lower than the wages of men for 33%.

We will determine how work experience affects the logarithm of the wages of men and women, for this we include in our model an additional fictitious interaction variable $G \cdot EXP$, as a work G and EXP, т.е. $GEXP_i = G_i \cdot EXP_i$, $i = 1, \ldots, n$:

$$\ln Y = \beta_0 + \beta_1 S + \beta_2 EXP + \beta_3 EXP^2 + \beta_4 G + \beta_5 GEXP$$

As a result, we get:

$$\ln Y = \underset{(327,56)}{10,2574} + \underset{(48,22)}{0,1036} S + \underset{(20,12)}{0,0289} EXP - \underset{(-19,68)}{0,0006} EXP^2 - \underset{(-15,90)}{0,2744} G - \underset{(-0,96)}{0,0007} GEXP, \quad R^2 = 0,163$$

The resulting regression equation is statistically significant, since the observed value of the Fisher test $F_{набл.} = 675,19$ more than critical $F_{крит.} = 2,21$. We will put forward and verify the null hypothesis that the year of additional work experience is the same, affects the logarithm of the wages of men and women (i.e. $H_0: \beta_5 = 0$). Since for the coefficient β_5 model of observable value t-statistics, equal to 0,96, does not exceed the critical value $t_{крит.} = 1,96$, hence, the null hypothesis is adopted. Thus, an additional year of work experience has the same effect on the logarithm of wages, both in men and women.

Analogously, we will analyze whether the additional logging year has a different effect on the logarithm of the wages of men and women, for this we include in our model an additional fictitious interaction variable GS, as a work G and S, i.e. $GS_i = G_i \cdot S_i$, $i=1, \ldots, n$;

$$\ln Y = \beta_0 + \beta_1 S + \beta_2 EXP + \beta_3 EXP^2 + \beta_4 G + \beta_5 GS$$

The desired regression model will look like:

$$\ln Y = \underset{(357,88)}{10,3098} + \underset{(32,69)}{0,0998} S + \underset{(20,87)}{0,0284} EXP - \underset{(-19,66)}{0,0006} EXP^2 - \underset{(-7,38)}{0,3799} G + \underset{(1,79)}{0,0075} GS, \quad R^2 = 0,163$$

The resulting regression equation is statistically significant, since the observed value of the Fisher test $F_{набл.} = 675,74$ more than critical $F_{крит.} = 2,21$. We will put forward and test the null hypothesis that the year of additional education has the same effect on the logarithm of the wages of men and women (i.e. $H_0: \beta_5 = 0$). Since for the coefficient β_5 observed value t-statistics, equal to 1,79, does not exceed the critical value $t_{крит.} = 1,96$, hence, the null hypothesis is adopted. Thus, the additional year of study has the same effect on the logarithm of wages, both in men and women.

It is important to examine the fact that differences in earnings between men and women are due to skills acquired through education and experience. We assume that the coefficients of the slope of the learning variables, and especially the length of service, may differ for men and women. To test our assumption, for each category of respondents, we constructed the earnings functions of the form:

$$\ln Y = \beta_0 + \beta_1 S + \beta_2 EXP + \beta_3 EXP^2$$

For individuals of the male sex, the earnings function will look like:

$$\ln Y = \underset{(222,45)}{10,2813} + \underset{(30,54)}{0,1003} S + \underset{(15,22)}{0,0313} EXP - \underset{(-14,64)}{0,0007} EXP^2, \quad R^2 = 0,114$$

For individuals of the female sex, the earnings function will look like:

$$\ln Y = \underset{(241,56)}{9,9563} + \underset{(38,37)}{0,1071} S + \underset{(14,24)}{0,0256} EXP - \underset{(-13,01)}{0,0005} EXP^2, \quad R^2 = 0,163$$

The resulting regression equations are statistically significant, as do all coefficients. Let us analyze the regression equations obtained. The returns from education in women and men are approximately the same, and are 10.71% and 10.03% respectively.

The value of the seniority level, for which ln Y maximum, is determined by the relation:

$$EXP^* = -\frac{\beta_2}{2\beta_3}.$$

In our case, we find that the number of years of experience at which the maximum of the logarithm of earnings is reached:

– for male:

$$EXP^* \approx 24;$$

– for female:

$$EXP^* \approx 24.$$

Thus, we get that the number of years of experience at which the maximum of the logarithm of earnings for men and women is the same. Consequently, the «log-salary-work experience» profiles for men and women will be parallel.

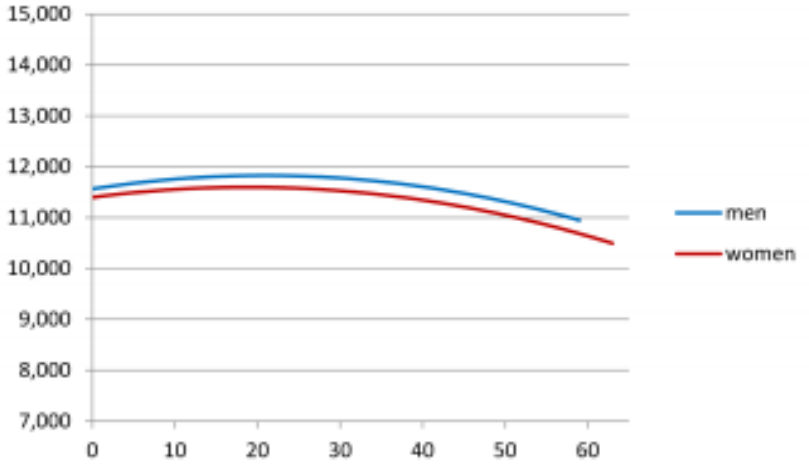


Figure 4 – Profile of «logarithm of salary – work experience»

Conclusion

The survey results show that the gender gap in wages has diminished, but not much, and continues to be significant. Work experience and duration of training have the same effect on the logarithm of wages in both men and women. The number of years of experience at which the maximum of the logarithm of earnings had reached is the same for both sexes and is equal to 24 years. The difference in wages between men and women in the Republic of Kazakhstan is due primarily to the distribution of labor between sectors and sectors. Men had employed mainly in the higher-paid private sector, for which the availability of higher education is not of high value and is of a formal nature. However, on the contrary, the public sector, in which women are mainly employed, highly appreciates the level of education, but has a lower level of pay.

Gender differences in wages are not only unfair, but also harmful to the economy, because they lead to poverty and social exclusion. Workers in Kazakhstan make a significant contribution to the well-being of households, and if they face difficulties in finding high-paying jobs, their families will have a significantly increased risk of falling into the poor.

Priority of policies in this area should be the increase in the competitiveness of women in the labor market, for example, through the development of mechanisms that allow women to combine maternity and work, in particular the enhancement of part-time employment, can help prevent the depreciation of women's labor.

References

Abaziyeva G.K. Gender differences in wages: empirical analysis, Bulletin of the Adyghe State University, Series 5: Economics, №10, 2010.

Aigner Dennis J., Glen G. Cain Statistical Theories of Discrimination in Labor Markets, Industrial and Labor Relations Review, 30:2, January 1977, P. 175-187.

Becker Gary Human Capital: A Theoretical and Empirical Analysis, in Special Reference to Education, New York: National Bureau of Economic Research, 1964.

Becker Gary S. A The Economics of Discrimination, Second Edition, Chicago: University of Chicago Press, 1971.

Becker Gary S. A Treatise on the Family. Cambridge: Harvard University Press, 1981.

Berndt E.R. The practice of econometrics: classic and modern. Textbook. – M .: UNITY-DANA, 2005.

Blinder Alan S. Wage Discrimination: Reduced From and Structural Estimates, Jornal of Human Resources, 18:4, Fall, 1973, P. 436-455.

Blinder Alan, Weiss Yoram Human Capital and Labor Supply: A Synthesis, Journal of Political Economy, 84:3, June 1976, P. 466-472.

Bloom David E., Mark R. Killingsworth Pay Discrimination Research and Litigation: The Use of Regression Analysis, Industrial Relations, 21:3, Fall, 1982, P. 318-339.

Cain Glen G. The Economic Analysis of Labor Market Discrimination: A Survey, in Orley Ashenfelter and Richard Layard, eds., The Handbook of Labor Economics, Vol. 1, Amsterdam: North Holland-Elsevier Science Publishers, 1986, P. 693-785.

Fedotovskaya T.A. Modern social policy: the gender approach. Analytical Herald of the Federation Council of the Federal Assembly of the Russian Federation, No. 25 (342), 2007, R. 5-23.

Formation of wages in Kazakhstan and the factors that affect it: Monograph / N.K. Yemelina, S.S. Kemelbaeva, N.G. Kozlova – Karaganda, KEUK, 2015.

Griliches Z. Estimating the Returns to Schooling: Some Econometric Problems, Econometrica, 45, 1977, P. 1-22.

Hungerford T., Solon G., Sheepskin effects in the returns to education. The Review of Economics and Statistics, 1987, P. 175-177.

Johnson Thomas Selection without (Unfair) Discrimination, Communications in Statistics – Theory and Methods, A7:11, November 1978, P. 1079-1098.

Kalabikhina I.E. Gender Discrimination in the Russian Labor Market: Current Proposals to Eliminate Inequality, Russian Economic Internet Journal, No. 4, 2008.

Maltseva I.O., Roshchin S.Yu. Gender segregation and mobility in the Russian labor market. – Moscow: State University Higher School of Economics, 2007.

Mincer Jacob Investment in Human Capital and Personal Income Distribution, Journal of Political Economy, 66:4, August 1958, P. 281-302.

Mincer Jacob On-the-Job Training: Costs, Returns, and Some Implications, Journal of Political Economy, 70:5, Part 2, October 1962, P. 50-79.

Nazarova I.B., Lobza E.V. Gender stereotypes in modern Russia – M .: MAX Press, 2007.

Oaxaca Ronald Male Female Wage Differentials in Urban Labor Markets, International Economic Review, 14:3, October 1973, P.693-709.

Oshchepkov A.Yu. Gender distinctions in a payment. Chapter 5 in book "Wages in Russia: evolution and differentiation". M, ID-GU-VSHE, 2007.

Pastore F., Verashagina A. Gender wage gap, Beyond Transition, №16, 2007.

Schultz Theodore Capital Formation by Education, Journal of Political Econo-my, 68:6, December 1960, P. 571-583.

Semykina A., Linz S. Gender Differences in Personality and Earnings: Evidence from Russia, WDI WP #791, April 2005.

Statistical compilation "Remuneration of labor in the Republic of Kazakhstan», Committee on Statistics of R.K., Astana, 2017.

Statistical compilation «Women and men of Kazakhstan», Committee on Statistics of R.K., Astana, 2017.

Statistical Database of United Nations Economic Commission for Europe and Executive Committee, Source: http://w3.unece.org

Stuken T.Yu. Discrimination in wages in the Russian labor market. Proceedings of the Irkutsk State Economic Academy, No. 6, 2007, P. 127-130.

The Methodology of Sampling Design for the Living Standards Households Survey (2015) Committee on Statistics under the Ministry of the National Economy of the Republic of Kazakhstan, stat.gov.kz

Литература

Абазиева Г.К. Гендерные различия в заработной плате: эмпирический анализ // Вестник Адыгейского государственного университета, Серия 5: Экономика, №10, 2010.

Бэкер Г.С. Трактат о семье. – Кембридж: Издательство Гарвардского университета, 1981.

Бэкер Г.С. Экономика дискриминации, второе издание. – Чикаго: Университет Чикагской прессы, 1971.

Айнер Д.Дж., Глэн Г. Кейн. Статистические теории дискриминации на рынке труда, обзор промышленных и трудовых отношений, 30: 2, январь 1977, С. 175-187.

Статистический сборник «Женщины и мужчины Казахстана». Комитет по статистике РК, Астана, 2017.

Статистический сборник «Оплата труда в Республике Казахстан». Комитет по статистике РК, Астана, 2017.

Пасторе Ф., Веращагина А. Гендерный разрыв в зарплате // Вне переходного периода. – №16. – 2007.

Берндт Э.Р. Практика эконометрики: классика и современность: Учебник. – М.: ЮНИТИ-ДАНА, 2005.

Блум Дэвид Е., Марк Р. Килингворс. Исследование дискриминации в оплате труда и судебное разбирательство: использование регрессионного анализа, производственных отношений, 21:3, осень, 1982, С. 318-339.

Глэн Г. Кейн. The Экономический анализ дискриминации на рынке труда: обзор в Орли Ашенфелтер и Ричард Лайард «Справочник по экономике труда», т. 1, Амстердам: издательства Научные издания Северной Голландии-Элсевира, 1986. – С. 693-785.

Джонсон Томас. Отбор без (нечестной) дискриминации, связи в статистике // Теория и методы, A7: 11, ноябрь, 1978. – С. 1079-1098.

Блайндер Алан С. Дискриминация по заработной плате: сокращенная форма и структурные оценки // журнал «Человеческие ресурсы», 18: 4, осень, 1973, С. 436-455.

Оаксака Рональд. Дифференциалы заработной платы мужчин на рынке труда в городах // Международный экономический обзор, 14: 3, октябрь 1973, С.693-709.

Минцер Якоб. Инвестиции в человеческий капитал и распределение личных доходов // журнал политической экономии, 66: 4, август, 1958, С. 281-302.

Шультц Теодор. Образование капитала по образованию, журнал политической экономии, 68: 6, декабрь, 1960, С. 571-583.

Бэкер Г.С. Человеческий капитал: теоретический и эмпирический анализ в специальном обращении к образованию. – Нью-Йорк: Национальное бюро экономических исследований, 1964.

Мальцева И.О., Рощин С.Ю. Гендерная сегрегация и мобильность на российском рынке труда. – М.: ГУ ВШЭ, 2007.

Назарова И.Б., Лобза Е.В. Гендерные стереотипы в современной России – М.: МАКС Пресс, 2007.

Статистическая база данных Европейской экономической комиссии Организации Объединенных Наций и Исполнительного комитета, источник: http://w3.unece.org.

Минцер Якоб. Обучение на рабочем месте: затраты, возврат и некоторые последствия, журнал политической экономии, 70: 5, часть 2, октябрь, 1962, С. 50-79.

Калабихина И.Е. Гендерная дискриминация на российском рынке труда: актуальные предложения по устранению неравенства // Российский экономический интернет-журнал, № 4, 2008.

Стукен Т.Ю. Дискриминация в заработной плате на российском рынке труда // Известия Иркутской государственной экономической академии, №6, 2007, Р. 127-130.

Федотовская Т.А. Современная социальная политика: гендерный подход // Аналитический вестник Совета Федерации ФС РФ, №25(342), 2007, Р. 5-23.

Семыкина А., Линц С. Гендерные различия в личности и доходах: данные из России, WDI WP #791, Апрель 2005.

Ошепков А.Ю. Гендерные различия в платеже. Глава 5 в книге «Заработная плата в России: эволюция и дифференциация». М, ID-GU-VSHE, 2007.

Блайндер Алан, Вайс Йорам. Человеческий капитал и предложение рабочей силы: синтез, журнал политической экономии, 84: 3, июнь, 1976, С. 466-472.

Методика составления выборки для обследования домашних хозяйств по уровню жизни (2015 год). Комитет по статистике при Министерстве народного хозяйства Республики Казахстан, stat.gov.kz

Арабсейбани Р., Мусуров А. Возврат в школьное образование в Казахстане: подход OLS и инструментальных переменных, документы для обсуждения IZA, 2006.

Грилишез С. Оценка возврата к обучению: некоторые эконометрические проблемы // Эконометрика, 45, 1977. – С. 1-22.

Хангерфорд Т., Солон Г. Шипскин. Эффекты в возврате к образованию // Обзор экономики и статистики, 1987. – С. 175-177.