

Grigorieva Angelina
The State University of Higher School of Economics
E_mail to: grig_ang@mail.ru

Gender wage gap in Russia

Introduction

Gender issues are one of the most spread themes of socio-economic research. The literature on the topic is well established and includes papers as well as reports of international research organizations (such as OECD, World Bank and so forth) for various countries. Indeed, gender issues cannot be ignored, because they have significant effects on economic growth and poverty. Unequal treatment of men and women with respect to jobs, incomes, social benefits, education, health care and so forth is humanly corrosive, socially retrograde and economically inefficient¹.

Mostly, the literature focuses on the position of men and women on labour market which is one of the main factors of economic gender equality or inequality. Really, the vast majority both males and females in Russia are employees and, hence, the main part of their prosperity is determined by earnings. Thus, to a large extent wage has an effect on individuals' and households' standards of well-being, economic possibilities of investments in human development, indicates efficiency of economic return from human capital. Moreover, gender wage differences may affect inter-family relationships between men and women, providing an unequal access to family assets, and, consequently, creating basis for economic dependence of women.

The goal of this study is to analyze and account for gender wage differences on Russian labour market. In more details, we are going to disclose the determinants of gender wage gap and how they influence wage differences. It is note worthily, that such issues have been raised in the studies on gender wage gap carried out in the Russian context. However, there is an important distinctiveness of our study in comparison to previously done research. In this study, we extend earlier papers by calculating and decomposing gender wage gap for two age groups (15-34 and 35-65 ages) which may provide more insight into the problem and add a substantial dimension to the next research.

The plan of the paper is the following. The paper goes on to discuss briefly possible explanations for gender wage differences. Section II provides a brief literature review of the Russian evidence on the gender wage gap over the past two decades. Section III specifies the data used and is followed by a description and discussion of the methodology applied. The empirical findings are presented in two sections. In the first, females and males wage earning equations are discussed and the second presents the results of the decomposition. Concluding remarks follow.

Explanations for Gender Wage Gap

Why do women earn less than men? Most explanations focus on one of three themes. The first is Smith's theory of equalizing differences. Following this conception, women might select themselves into less stressful occupations or pick different career paths than men and hence, get fewer wages. They also might invest less in acquiring human capital because they experience more interruptions in the labor market.

The second is concerned with labor market segregation. Gender difference in earnings may be the result of segregation on the labour market for a number of reasons, amongst which

¹ Paci P. Gender in Transition. World Bank. 2002.

the most significant are the 'crowding' hypothesis, the 'strong preferences' hypothesis and the 'price discrimination' hypothesis. According to the first one, barriers to access to many activities result in women concentrating in a limited number of occupations. Consequently, these occupations are characterized by lower wages than in the less crowded male occupations. The second hypothesis explains gender pay difference due to systematic gender differences in preferences for non-pecuniary aspects of the job, i.e. flexibility, which leads to men and women sort themselves into two sectors: a highly paid, less desirable, sector for men and a less paid, but more attractive, sector for women. The last hypothesis interprets the gender wage gap in the following way. Women face more family commitments, smaller range of alternative offers, and shorter travel-to-work possibilities than men and, hence, the cost-minimizing employer splits the male and female labor markets and offers different wages to the two groups.

The third explanation is that women are discriminated against. In particular, it is supposed that women are paid less than their male counterparts because of discrimination, even if they have the same characteristics and perform the same tasks.

Literature review

Virtually every industrialized country has passed laws mandating equal treatment of women in the labor market. Yet the gender wage gap, while on the decline in many countries, is a persistent feature of virtually every nation's labor market. Moreover, the extent to which men outearn women varies substantially across countries as well². By and large, the smallest differences between female and male earnings are observed in Scandinavian countries, and in Russia female –male wage ratio is moderate in comparison to other countries (Table 1).

There is by now an ample body of research on the labor market in Russia from the post transition period, as well as several studies prior to economic reform, related to gender wage gap. The summary of research findings on gender pay gap in Russia presented in Table 2. On the whole, the unadjusted wage gap ranges from 20 percent to over 40 percent, depending on the data and whether an hourly or monthly wage rate is used.

Really, empirical studies on gender pay differentials in the USSR are very few. Ofer and Vinokur (1982)³ used data from the Soviet Interview Project, which was a sample of workers who had emigrated from the USSR in the 1970s. The main findings of the study were that, on average, women earned less than two-thirds of the wage of their male counterparts. From this total pay gap, 49.3 percent could be explained by differences in human capital endowment and in returns to occupational type. The other 50.7 percent of the wage differential must have been due to discrimination.

Besides emigrant surveys, there is little information on Russian wages and namely gender wage gap before the economic transition. Katz (1997)⁴ used household data collected in 1989 in the middle-sized industrial town of Taganrog and calculated the ratio of female to male monthly wages of 65 percent and for hourly wages of 73 percent. The breakdown of this difference for monthly wages revealed that 27 percent was due to differences in education, experience, qualification level and work conditions, and 73 percent is left unexplained. For hourly wages, the finding was that only 15.4 percent can be attributable to endowment differences, whilst the remaining 84.6 percent is the unexplained difference. She also founded that occupational segregation was an important determinant of this gender wage gap. Thus, male employment in Taganrog was concentrated in heavy industry, while women worked in many different sectors. Working women of the sample worked fewer hours per week, had less labor market experience, tended to work in jobs with lower qualifications and worked in less prestigious sectors.

² FD Blau, LM Kahn. Understanding international differences in the gender pay gap // Journal of Labor Economics. Vol. 21. No. 1. 2003.

³ Ofer G., Vinokur A. (1992) The Soviet Household Under the Old Regime: Economic Conditions and Behaviour in the 1970s. 1992. Cambridge: Cambridge University Press.

⁴ Katz K. Gender, Wages and Discrimination in the USSR: a Study of a Russian Industrial Town // Cambridge Journal of Economics. 1997. Vol. 21. P.P. 431-452.

There are a growing number of studies related to the gender wage differential in Russia during the transition. First, we review a study devoted to the gender wage gap in transition and then we proceed with those focused solely on the gap in Russia. Brainerd (1998)⁵ used the May 1991, April, May and June 1993, and May and June 1994 “All-Russian Center for Public Opinion Research - VTsIOM – Survey” and exploited the technique of Juhn et al. (1993)⁶ that takes into account changes in such components of the residual as the percentile an individual occupies in the residual distribution and the spread of the residual distribution. She found that women in Russia more than elsewhere in the countries of Eastern Europe suffered from the widening wage structure. Thus, she found that the overall wage dispersion in Russia increased dramatically from 1991 to 1994 and reported an increase in the unadjusted female-male salary gap from 1991 to 1994. She calculated the ratio of average monthly salaries for women and men of 0.795 in May 1991, which then decreased to 0.603 in 1993, and after all increased to 0.635 in May 1994. At the same time she revealed that little of the change in the gender wage gap appeared to be due to the occupational and industrial shifts. She concluded that, hence, the only way to explain the changing gender gap in wages was that women tended to hold jobs in the lower tail of the wage distribution, which was extremely large in Russia and also in Ukraine.

Newell and Reilly (1996)⁷ presented estimates for the gender wage gap based on a nationally representative sample drawn from the first round of the Russia Longitudinal Monitoring Survey (RLMS) carried out in 1992. The gross difference in hourly wages for women was found to be around 30 percent lower than men's wages. After decomposing (the Oaxaca/Binder approach) the entire differential into explained and unexplained terms, only 11.6 percent could be accounted for by differences in characteristic. Thus, they found that the gender earnings differential was mostly accounted for by differences in treatment rather than by differences in characteristics and the failure of women to advance within sectors rather than segregation.

Reilly (1999)⁸ examined the evolution of the gender pay gap in Russia between 1992 and 1996 using also the RLMS data. He founded that the transition process had an approximately neutral effect on the unadjusted gender wage gap during the period, since although women suffered from dramatic increases in the level of wage dispersion, this suffering was offset by favorable changes in returns to human capital. To complement the mean regression approach, quantile regression procedures were also employed in the study. Although the median regression provided evidence of a statistically significant temporal increase in the gender pay gap, this finding was not supported at other chosen quantiles of the wage distribution.

The above studies derive their results from analysis of wages paid rather than wages due, yet payment arrears may have important gender implications. Indeed, Glinskaya and Mroz (2000)⁹ acknowledge that failure to account for the effect of non-payment of wages may seriously undermine any analysis of gender wage inequality. They examined the gender gap in wages using data on prime aged men and women from the RLMS and focusing on those living in urban areas. It was founded that men earned approximately 31% higher wages per hour than women in 1992, then this rose to 33% in 1994 and fell to 25% in 1995. Differences in hours of work appeared to explain about one half of the gender differential, but there was still a large differential in average hourly wages between men and women. Observable differences in

⁵ Brainerd E. Winners and losers in Russia's economic transition. // *The American Economic Review*. 1998. Vol. 88. No. 5. P.P. 1094-1116.

⁶ Juhn C., Murphy K. M., Pierce B. Wage Inequality and the Rise in Returns to Skill // *Journal of Political Economy*. 1993. Vol. 101. No. 3. PP. 410-442.

⁷ Newell A., Reilly B. The Gender Gap in Russia: Some Empirical Evidence // *Labor Economics*. 1996. Vol. 3. No. 3. PP. 337-356.

⁸ Reilly B. The gender pay gap in Russia during the transition, 1992-96 // *Economics of Transition*. 1999. Vol. 7. No. 1. PP. 245-264.

⁹ Glinskaya E., Mroz T.A. The gender gap in wages in Russia from 1992 to 1995 // *Journal of Population Economics*. 2000. Vol. 13. No. 2. PP. 353-386.

characteristics between men and women explained almost none of the differential or the changes through time. The authors concluded that the effect of arrears on the gender pay gap was ambiguous but that the inclusion of occupational controls may help in mitigating such effects.

Ogloblin (1999)¹⁰ also recognized the complications in estimating the wage gap arising from wage arrears and, correcting for wage arrears selectivity, assessed the wage gap for workers not in receipt of wage arrears. Using 1994-1996 RLMS data he calculated that the gender earnings ratio increased from 68% to 72%. Moreover, he found that the majority of the remaining gender wage gap was explained by occupational and industrial affiliation with women having been concentrated in industries and occupations that pay substantially less.

Arabsheibani and Lau (1999)¹¹ assessed the gender pay gap in Russia on the RLMS data (1994), incorporating the use of the Heckman two-step procedure for sample selection bias. The results shown that the degree of discrimination was still quite large against women, at 59 percent applying the Oaxaca method or 64 percent using Reimers' method of decomposing the differential. They found that although the degree of discrimination was still high it was lower than in other studies that did not correct for sample selection.

One of the most recent studies on the gender wage gap in Russia was conducted by Oschepkov (2007)¹² who used the nationally representative NOBUS data. He calculated that the male-female earnings ratio was about 70%. Applying the standard Oaxaca-Blinder decomposition he founded that the most significant factors that explained the gap were occupational and professional segregation.

In conclusion, the vast majority of studies relate to the transitional period. In addition, investigating the gender pay gap it is of importance to note that wage gaps within gender groups are also matter. Thus, Waldfogel (1998a)¹³ revealed that a widening family wage gap for young working women in the United States. In particular he found that women with children are characterized with higher pay gap than ones who do not have children. In our analysis we are going to look into the wage gaps in Russia and Germany in the whole as well as within two age groups, namely 15-34 and 35-65.

Data

The data for this paper comes from the Russian Longitudinal Monitoring Survey (RLMS). The Russian Longitudinal Monitoring Survey (RLMS) is a series of nationally representative household-based surveys designed to monitor and measure the effects of Russian reforms on the health and economic welfare of households and individuals in the Russian Federation. These effects are measured by a variety of means: detailed monitoring of individuals' health status and dietary eating; precise measurement of household-level expenditures and service utilization; and collection of relevant community-level data, including region-specific prices and community infrastructure data. The RLMS survey instruments were designed by an interdisciplinary group of Russian and American social science and biomedical researchers with extensive experience in survey research. Data have been collected thirteen times since 1994¹⁴. In the research we use the data for 2000-2006.

The sample was selected according to those who worked and reported a wage in the previous month, both females and males aged 15 to 65.

¹⁰ Ogloblin C.G. The Gender Earnings Differential in the Russian Transition Economy // *Industrial and Labor Relations Review*. 1999. Vol. 52. No. 4. PP. 602-627.

¹¹ Arabsheibani G.R., Lau L. 'Mind the Gap': An Analysis of Gender Wage Differentials in Russia // *Labour*. 1999. Vol. 13.No. 4. PP. 761-774.

¹² Ощепков А. Гендерные различия в оплате труда // *Заработная плата в России: эволюция и дифференциация* / под ред. В.Е. Гимпельсона, Р.И. Капелюшников. М.: Изд. дом ГУ ВШЭ. 2007.

¹³ Waldfogel, J. Understanding the Family Gap in Pay for Women with Children // *Journal of Economic Perspectives*. Vol. 12. No. 1. 1998a. PP. 137-156.

¹⁴ <http://www.cpc.unc.edu/projects/rlms>

The Russian Labour Market seems to inherit some features from the socialist past. In the Soviet Union achieving gender equality was one of the political goals. Since those times Russia has had a comparatively high labor force participation rate among married women. In 2006 among currently working individuals men outnumber women by over 5% (Table 3). However, the difference between the shares of not working females and males is smaller being nearly 3%. Furthermore, men work on average 6 hours more per week than women, in other words, women work on average about 87% of male hours. Thus, women's commitment to the labour force as measured by average weekly hours worked is lower than that of males. This fact can reflect that women share their time between work and household responsibilities (the double burden of household responsibilities) or they have less opportunity to work as many hours as men do.

The RLMS data shows that women are significantly better educated than men in terms of specialized schooling and higher education both among the whole and the working populations (Table 4 **Table 1**). The fact that the educational attainments of women are higher than those of men believes to constitute the peculiarity of the Russian Labour Market.

Since the Soviet Union times the Russian labour market is highly segregated with "male" and "female" professions. Women's professions tend to be characterized by more flexible schedules, fewer responsibilities and, hence, lower pay. Women predominate in such industries as government and public administration, education, science and culture, public health, trade and consumer services as well as finances while men prevail in construction, oil and gas and energy as well as heavy industries, transportation and communication, agriculture and, finally, in army and security services (Table 5 **Errore. L'origine riferimento non è stata trovata.**). Thus, it can be concluded that, to some extent, the patterns of industrial segregation formed during the Soviet period are still evident.

Quite significant gender earnings gap may be calculated by estimating the difference in mean earnings between females and males (Table 6). In 2006 mean wage for women demonstrates greater dispersion than those for men if measured by the standard deviation. The female-male earnings ratio in Russia is equal to about 0,7 which means that on average Russian women earn 70 percent of male wages.

Average earnings for both men and women increased during 2000-2006 (Table 7, Diagram 1). However, fewer men who worked report wages in the previous month in comparison with women. The male-female differential in mean wages increased and reached its highest level in 2001 but then declined substantially in 2002. In 2002-2004 the differential increased steadily but, nevertheless, was lower than in 2001. Moreover, in 2005 it dropped dramatically and reached its lowest level in 2006. At the same time, the female-male wage ratio in Russia decreased in 2001 and then started growing steadily with the highest level of 70,9% in 2006. Nonetheless, it was still significantly low by international comparison (see Table 1).

In framing the analysis in terms of gender wage gap, it is a good idea to draw attention to pay gaps within gender groups, particularly according to age. In our analysis we divide both gender groups into two sub samples according to the age: 15-34 and 35-65. In 2000 the female-male mean wage ratio among people at the age of 35-65 who reported wage in the previous month was higher than among the same group at the age of 15-34 (Table 8 **Table** , Diagram 2). Moreover, this correlation of the ratios between young and elderly employees was the same during the whole considered period except 2001 and 2006. The difference between the female-male mean wage ratios reached its highest level in 2004 being 10%.

Methodology

A common measure used to summarize the female position in the labour market is the gender pay ratio. This is the ratio of average female pay to average male pay, that gives the fraction of the average male pay earned by women, and usually expressed as:

$$\frac{\overline{W}_f}{\overline{W}_m} \quad (1)$$

where \overline{W}_f and \overline{W}_m are the average female and male wages, respectively.

Another measure can be the gross earnings differential. The use of natural logarithms allows the gross earnings differential between males and females (\overline{D}) to be expressed as follows:

$$D = \ln \overline{W}_m - \ln \overline{W}_f \quad (2)$$

Both expressions can serve as an estimate of the gender wage gap, but they provide no insight into that part of the gap which is attributable to differences in various productivity-related characteristics (endowments) between males and females. The standard approach to estimating the gender pay gap is based on decomposing the gross earnings differential into a part attributable to differences in productivity-related characteristics and the unexplained (residual) component. The unexplained component is the difference in the shift coefficients (or constants) between the two wage equations. Being inexplicable, the last one is often attributed to discrimination. This approach was suggested by Oaxaca (1973) and Blinder (1973) and then adopted in most of studies on gender pay gap. This method relies on the estimation of separate wage equations for each gender:

$$\ln(W) = X \cdot \beta + e \quad (3),$$

where $\ln(W)$ is a vector of log wages, X is a matrix of persona characteristics and characteristics of working place which exert influence on wage, β is a vector of coefficients that are estimated and e is a vector of components that were not included in the model but influence wage.

This specification of the equation is based on human capital theory being quite common in the literature. A subset of independent variables, namely level of education, age and its quadratic as a proxy measure for labour force experience and specific employment record, accounts for conventional human capital characteristics. Education is characterized by the set of dummies variables for different types of education. Another subset of independent variables accounts for industrial and occupational segregation. Several studies revealed that the results of the decomposition vary significantly if include or exclude controls for occupation. However, from our perspective it is worth including because in the opposite case the unexplained part of the pay gap ascribed to discrimination can be overestimated. Indeed, a substantial part of the gap is likely to be caused by differences in workers' choices rather than by discrimination from employers. Industrial segregation is reflected by seventeen industries dummies. One more set of dummy variables control for the size of the enterprise. In the model we also controlled region (9 Federal Okrug) where the enterprise is located.

The wage equations are specified to relate the logarithm of the money received in the last 30 days from the primary job after taxes as a function of the individual characteristics as well as the characteristics of the occupation. In our study we focus on main job earnings which exclude from the analysis the treatment of earnings from the secondary job. In the vast majority of related studies it has not been taken into account. In our analysis we follow the common approach because it can eliminate measurement errors that can occur in the reporting of secondary or informal earnings. A point concerned with payment arrears in Russia needs noting. In our analysis we did not control for wage arrears in Russia as it was done in a number of studies¹⁵ because only a small proportion of workers reported about it. Moreover, as Glinskaya and Mroz

¹⁵ Se for example Glinskaya E., Mroz T.A. The gender gap in wages in Russia from 1992 to 1995 // Journal of Population Economics. 2000. Vol. 13. No. 2. PP. 353-386: Brainerd E. Winners and losers in Russia's economic transition. // The American Economic Review. 1998. Vol. 88. No. 5. P.P. 1094-1116 or Kazakova E. Wages in a Growing Russia: When is a Ten Percent Rise in the Gender Pay Gap Good News? In CERGE-EI Working Paper. No. 257. 2005.

(1996) argued, the effect of wage arrears on the gender pay gap is ambiguous and, furthermore, the inclusion of occupational controls may serve to reduce such effects.

Decomposition of gender wage gap is based on estimations of the earnings equations for males and females following Oaxaca:

$$\ln \overline{W}_m - \ln \overline{W}_f = \overline{X}_m B_m - \overline{X}_f B_f \quad (4)$$

where \overline{X}_m and \overline{X}_f are vectors of mean productivity-related characteristics of males and females, B_m and B_f are the estimated coefficients of the OLS regression equations for men and women.

As Oaxaca (1973) shown, the wage differential may be then decomposed as

$$\ln \overline{W}_m - \ln \overline{W}_f = (\overline{X}_m - \overline{X}_f) B_m + \overline{X}_f (B_m - B_f) \quad (5)$$

or as

$$\ln \overline{W}_m - \ln \overline{W}_f = (\overline{X}_m - \overline{X}_f) B_m + \overline{X}_m (B_m - B_f) \quad (6)$$

The first term on the right-side of either (5) and (6) is the log wage difference due to differences in average characteristics between the two gender groups and the second term is the difference due to different coefficients or the difference in male and female wage structures. Thereby, the gender earnings differences is decomposed into two parts: the first term is attributable to mean productivity-related characteristics of men and women and the second is usually interpreted as the component reflecting discrimination or possible differences in unobserved productivity-related characteristics.

A problem of this method is that equations (5) and (6) yield different estimates for the gender wage gap as equation (5) evaluates the differences in average characteristics using the male wage structure, while in equation (6) the female wage structure is employed. This problem is usually named as “index number” problem and is broadly discussed in the literature on discrimination in the labour market¹⁶. In our work we take the average endowment differences between the two groups and weights them (multiplies them) by the high-wage workers' estimated coefficients. The differences in the estimated coefficients are weighted (multiplied by) the average characteristics of the low-wage workers.

In this approach it is assumed that labour force participation is endogenous. A substantial number of women tend not to work and, hence, working women may not be a random sample from the population of all females. Thus, the coefficients of female earnings function may be biased and provide biased estimates and, consequently, should be corrected. Indeed, in the most of related studies female wage equations are corrected for selection bias by using a two-step correction procedure, proposed by Heckman (1979)¹⁷. In our study female wage equations were estimated to account for selection bias using Heckman's correction.

The technique presented by Heckman is used to obtain valid estimates of the coefficients in the earnings equations and of the gender wage gap. First of all, a participation equation for women should be specified. It is essential that at least one variable should be included in the participation equation which is not included in the wage equation in addition to the variables in the latter equation. In our analysis the likelihood of working is supposed to be dependant also on the presence of children under 3 year old in the household as well as on the presence of children at the age of 4-6 and at the age of 7-16 in the household, also on the marital status, size of the household (the number of people in the household) and logarithm of the household's total income (see Table). In our analysis we used maximum likelihood because it achieves the smallest possible variance by Cramer-Raw efficiency bound theorem.

¹⁶ See for example Cotton J. On the Decomposition of Wage Differentials // *Review of Economics and Statistics*. 1988. Vol. 70. No. 2. PP. 236-243 and Neumark D. Employers' Discriminatory Behavior and the Estimation of Wage Discrimination // *Journal of Human Resources*. 1988. Vol. 23. No. 3. PP. 279-295.

¹⁷ Heckman J. J. Sample selection bias as a specification error // *Econometrica*. 1979. Vol. 47. No. 1. PP. 153-161.

Empirical results

The results of the probit analysis on female participation are presented in Table 9. It can be said that the models with and without sample correction yield virtually the same estimates of the regressions coefficients for all women (at the age of 15-65) and in case of young employees (15-34 year old). However, the results for employees who belong to the second age group is quite pronounced. That is why the further analysis considers the selectivity-bias-corrected results.

Age has a positive and highly significant effect on female participation in the whole and if we deal with both age groups which means that as women become older the probability of participation increases, although at a declining rate. The effect of education at all levels is also positive and significant in all cases. Thus, women who studied at technical community college and/or vocational training and at university are more likely to enter labour market than the women who have only some secondary school education. As expected, the effect marriage has a negative effect on the decision to work in all cases under consideration but is, however, insignificant. The presence of dependant children under 3 year exerts negative influence on the decision to work being highly significant for young women and less significant for women at the age of 35-65, which is quite expected. In addition to this, size of the household counting as a number of household's members have a negative and significant effect on female participation in all cases. Total income of the household not counting women's wage has also negative effect on the decision to enter the labour market if we are speaking about all women in the whole. One possible explanation is that if the family's income is quite enough for the number of members and does not require an additional wage, thus, women do not make a decision to start working. However, in case of both age groups this factor stops influencing.

Table 10 **Errore. L'origine riferimento non è stata trovata.** presents the regression results for the female and male earnings equations. The wage equations are specified to relate the logarithm of the money received in the last 30 days from the primary job after taxes as a function of the individual characteristics as well as the characteristics of the occupation. The first include educational level and having children under 3 year old as well as marital status and the latter accounts for industrial segregation, ownership of the enterprise, having supervising responsibilities and number of average working hours per week. The model includes also controls for region.

Estimates of the equations on all sub samples demonstrate that returns to education are positive for both males and females, but their magnitudes differ according to the level of education. Among education degrees higher education, as expected, brings the highest returns for males and females both if we consider the whole population and divide them into the age groups. Technical community college and/or vocational training have also positive sign and are significant if we consider women in all specifications and young male employees. Thus, achieving specialized or higher education appears to matter for women rather than for men.

Childbearing has an adverse effect on women's wages and a positive effect on males' earnings being highly significant. These results appear to be in accordance with Oschepkov (2007). As a possible explanation it can be assumed that having small children creates additional incentives to men so that they start working more effectively and earn more money. Marital status, particularly being married, has significant positive effect on men in the whole but hardly influence women's earnings. This result also is in accordance with Oschepkov (2007).

Specific employment record has a positive sign both for men and women but men get more returns than women. Both for men and women the longer specific employment record is, the higher wage is but the rate tends to slow down in time. However, it is significant only if we consider male employees'.

There are also significant industrial effects. Thus, being employed in oil and gas industry as well as in construction has a positive highly significant effect on females' and males' earnings in the whole except young men. In addition to this, working in other branches of heavy industry has a positive significant effect on males' earnings, in particular in case of elderly employees. In

contrast, employees who work in education, agriculture, science, culture and public health tend to have significantly lower wages than in light industry, food.

Ownership of the enterprise appears to have a significant effect on women's wages. In more details, employees who work at a state enterprise get less wages in comparison with those who are employed at a private enterprise. We also revealed that supervising responsibilities considered as having any subordinates has a positive highly significant effect on females' and males' earnings in case of all sub samples. It is noteworthy that previous studies seem not to control for this factor. Considering other characteristics of job place, we found that number of average weekly working hours has strong significant and positive effect in all cases except men at the age 15-34. These results are of no surprise and are in accord with Oschepkov's (2007) findings.

Finally, controls for region reveals that living in all regions except North Western has a negative significant effect on earnings both for females and males of any age group in comparison to Central region where Moscow is located. These findings are of no surprise and are in accord with previous studies. This may reflect heterogeneity of economic development in Russia.

Decomposition of the Gender Pay Gap

According to the RLMS 2006 data the female-male mean wage ratio is 70,9% being higher for young employees if divide the whole sample into two age group (15-34 and 35-65). Following the Oaxaca and Blinder (1973) decomposition method, the gross difference between females and males can be attributed to differences in characteristics and an unexplained residual that is normally ascribed to be a result of discrimination. The results of the decomposition are presented in Table 11.

As the results of decomposition demonstrate, unexplained residual appears to account for much more proportion of the pay gap than differences in characteristics between females and males. If consider the whole population at the age of 15-65 the unexplained part constitutes 73,4%. However, the magnitude of unexplained part varies according to the age. For young employees at the age of 15-34 it is 74,5% but for elderly employees it is significantly lower being 66,0%. Thus, young women in Russia appear not to take up advantageous position on the labour market. As a possible explanation, employers may pay less young female employees being afraid that they quit the job place because of marriage, pregnancy and so forth.

Table 12 presents the sources of the gap. The most important factor seems to be the effect of working hours being approximately the same for the population in the whole and the age groups. The next factor appears to be ownership of the enterprise. It accounts for -12.9% of the gap for the whole population at the age of 15-65 but differ slightly if consider the age groups. In more details, it is higher for young employees being -13.4% in comparison to -10.8% for the other age group. The effect of education accounts about 10% of the gap if we take into consideration the whole sample. However, among the age groups one can observe significant differences since for the young it accounts 5,2% and for the other group – 12.2%. Similarly, the effect of children under 3 year old differ between the groups. In particular, for the young it is one of the most important factors but for the elderly it accounts significantly less part of the gap. Also the similar picture can be observed if consider both specific employment record and its squared. Considering the effect of industry, it is negative for the whole population and for elderly employees. However, for the young it is quite important and has a positive effect. For young employees the effect of industry explains 6.7% of the gap while for the other group -9.0%. In addition to this, region also tends to contribute to the gap.

In light of all above written, we can suggest that sources of the gap can be divided into two groups according to how their effects differ for employees at different age. In more details, such factors as ownership of the enterprise, working hours and marital status are nearly constant in all cases considered and have similar effect on the gap if we consider the whole population

and for each age group as well. In contrast, the other factors have different effect according to age. Thus, the gap among the young is determined to a great extent by having children less than 3 years while in case of the elderly it seems to play much less significant role which is of no surprise. Specific employment record and its quadratic also seem to contribute a lot to the gap among the young in contrast to the other age group. On the other hand, education is more important for 35-65 employees and its influence on the gap is much less if the young are under consideration.

Conclusion

This work is devoted to analyze and account for gender wage differences on Russian labour market as well as to compare the gender wage gap and its sources between young and more elderly employees (15-34 and 35-65 ages). On average, the female-male mean wage ratio in Russia is equal to 70,9%. However, if divide the population under survey according to the age then the ratio for young is higher than for the other group being 73,6% in comparison to 63,5%. Moreover, the unexplained part of the gap in case of young is also higher. In other words, it can be concluded that Russian young female employees seem not to have advantageously position on the labour market.

In addition to this, different factors contribute to the gap if compare young and elderly employees. While having children and specific record, its quadratic are the most significant factors that contribute to the gap among the young, in case of elderly employees education and industry of the enterprise are the most important factors of the gap. At the same time, such factors as ownership of the enterprise (whether it is state or private) and number of working-hours per week are of equal importance in all cases.

References

- Arabsheibani G.R., Lau L. 'Mind the Gap': An Analysis of Gender Wage Differentials in Russia // *Labour*. 1999. Vol. 13.No. 4. PP. 761-774
- Brainerd E. Winners and losers in Russia's economic transition. // *The American Economic Review*. 1998. Vol. 88. No. 5. P.P. 1094-1116
- FD Blau, LM Kahn. Understanding international differences in the gender pay gap // *Journal of Labor Economics*. Vol. 21. No. 1. 2003
- Glinskaya E., Mroz T.A. The gender gap in wages in Russia from 1992 to 1995 // *Journal of Population Economics*. 2000. Vol. 13. No. 2. PP. 353-386
- Hausmann R., Tyson L.D., Zahidi S. *The Global Gender Gap Report*. World Economic Forum, Geneva, Switzerland, 2006
- Heckman J. J. Sample selection bias as a specification error // *Econometrica*. 1979. Vol. 47. No. 1. PP. 153-161
- Juhn C., Murphy K. M., Pierce B. Wage Inequality and the Rise in Returns to Skill // *Journal of Political Economy*. 1993. Vol. 101. No. 3. PP. 410-442
- Katz K. Gender, Wages and Discrimination in the USSR: a Study of a Russian Industrial Town // *Cambridge Journal of Economics*. 1997. Vol. 21. P.P. 431-452
- Newell A., Reilly B. The Gender Gap in Russia: Some Empirical Evidence // *Labor Economics*. 1996. Vol. 3. No. 3. PP. 337-356
- Oaxaca R. Male-Female Wage Differentials in Urban Labor Markets // *International Economic Review*. 1973. Vo. 14. No. 3

Ofer G., Vinokur A. (1992) *The Soviet Household Under the Old Regime: Economic Conditions and Behaviour in the 1970s*. 1992. Cambridge: Cambridge University Press

Oglobin C.G. *The Gender Earnings Differential in the Russian Transition Economy // Industrial and Labor Relations Review*. 1999. Vol. 52. No. 4. PP. 602-627

Paci P. *Gender in Transition*. World Bank. 2002

Reilly B. *The gender pay gap in Russia during the transition, 1992-96 // Economics of Transition*. 1999. Vol. 7. No. 1. PP. 245-264

Waldfogel, J. *Understanding the Family Gap in Pay for Women with Children // Journal of Economic Perspectives*. Vol. 12. No. 1. 1998a. PP. 137-156

Ощепков А. Гендерные различия в оплате труда // *Заработная плата в России: эволюция и дифференциация* / под ред. В.Е. Гимпельсона, Р.И. Капелюшникова. М.: Изд. дом ГУ ВШЭ. 2007

Table 1

Female-male ratio in some countries

Country	Ratio
Armenia	0.71
Australia	0.64
Belarus	0.67
Belgium	0.60
Bulgaria	0.64
Canada	0.71
China	0.74
Denmark	0.65
Estonia	0.62
Finland	0.68
Germany	0.57
Greece	0.63
Italy	0.54
Netherlands	0.60
Norway	0.75
Portugal	0.65
Russia	0.68
Slovenia	0.65
Sweden	0.73
Switzerland	0.61
Ukraine	0.67
United Kingdom	0.62
United States	0.69

Data: R Hausmann, LD Tyson, S Zahidi. *The Global Gender Gap Report*. World Economic Forum, Geneva, Switzerland, 2006.

Table 2

Summary of Research on Gender Wage Gap in Russia

Year of Research	Author(s)	Data	Gender Wage Gap	Factors
1982	Ofer and Vinokur	Soviet Interview Project 1979-1982	22-29% Monthly WageGap	
1997	Katz	Household Survey, Town of Taganrog 1989	17% Monthly Wage Gap 27% Hourly Wage Gap	
1998	Brainerd	Household Survey (VTsIOM) 1991-1994	1991: 20% Monthly Wage Gap 1994: 32% Monthly Wage Gap	Years of education Years of potential experience Years of potential experience squared
1996	Newell and Reilly	RLMS 1992	30% Hourly Wage Gap	Age Age squared Level of education Occupation Industry Region
1999	Reilly	RLMS 1992-1996	1992: 46% Monthly Wage Gap 28% Hourly Wage Gap 1996: 44% Monthly Wage Gap 28% Hourly Wage Gap	Age Age squared Level of education Occupational controls Regional controls
2000	Glinskaya and Mroz	RLMS 1992-1995	28% to 39% Hourly Wage Gap	Level of education Age Age squared Experience Occupation Ownership of the enterprise Entrepreneurship Region
1999	Ogloblin	RLMS 1994-1996	38% Hourly Wage Gap	Level of education Experience (age-15-years of schooling after the 8 th grade) Experience squared Industry Ownership of the enterprise Occupation Region
1999	Arabsheibani and Lau	RLMS 1994	30% Hourly Wage Gap 37% Monthly Wage Gap	Age Age squared Level of education Logarithm working-hours Place of birth Medical insurance Pension Satisfaction with life at the present moment Supervisory responsibilities at work Health problems in the last 30 days Operation in the last 2 years Ownership of the enterprise Occupation

				Nationality Region
2007	Oschepkov	NOBUS 2003	15-18% Monthly Wage Gap	Level of education Experience Age Age squared Working-hours (per day) Industry Ownership of the enterprise Occupation Place of living (size) Marital status Children under 7 Children at the age of 8-15 Region

Table 3

Primary Work at Present (percent)

	Women	Men
Currently working	57,74	62,94
On paid leave (maternity or taking care of a child under 3)	2,76	0,0
On another kind of paid leave	0,17	0,51
On unpaid leave	0,10	0,08
Not working	39,24	36,52
Average Weekly Hours Worked	41,3	47,4
Total (people)	4134	3365

Data: RLMS, 2006

Table 1

Educational Distribution by Gender (percent)

Level of Education	All		Employed	
	Women	Men	Women	Men
Some Secondary School	49,06	66,32	37,63	58,33
Technical community college and/or vocational training	28,30	17,57	32,90	21,49
Higher education	22,64	16,11	29,47	20,18
Total (people)	4134	3364	2511	2136

Data: RLMS, 2006

Table 5

Industrial Distribution of Employment by Gender (percent)

Industry	Women	Men
Light Industry, Food Industry	57,31	42,69
Civil Machine Construction	43,86	56,14
Military Industrial Complex	50,00	50,00
Oil and Gas Industry	30,66	69,34
Other Branch of Heavy Industry	32,91	67,09
Construction	22,11	77,89
Transportation, Communication	33,93	66,07
Agriculture	37,10	62,90
Government and Public Administration	69,89	30,11
Education	87,59	12,41
Science, Culture	69,43	30,57
Public Health	86,02	13,98
Army, Ministry of Internal Affairs, Security Services	29,38	70,62
Trade, Consumer Services	65,83	34,17
Finances	78,43	21,57
Energy (Power) Industry	34,18	65,82
Housing and Communal Services	44,19	55,81
Total	45,76	54,24

Data: RLMS, 2006

Table 6

Earnings by Gender, rubles (percent)

	Women		Men	
	Mean	Std. Dev.	Mean	Std. Dev.
Money received in the last 30 days from the primary job after taxes	6886.173	6035.235	9712.652	8339.071
Logarithm ¹⁸ Wage in the last month	8.531617	0.8151882	8.90055	0.7770682
Female-Male Earnings Ratio	0,70899			
Total (people)	2227		1864	

Data: RLMS, 2006

Table 7

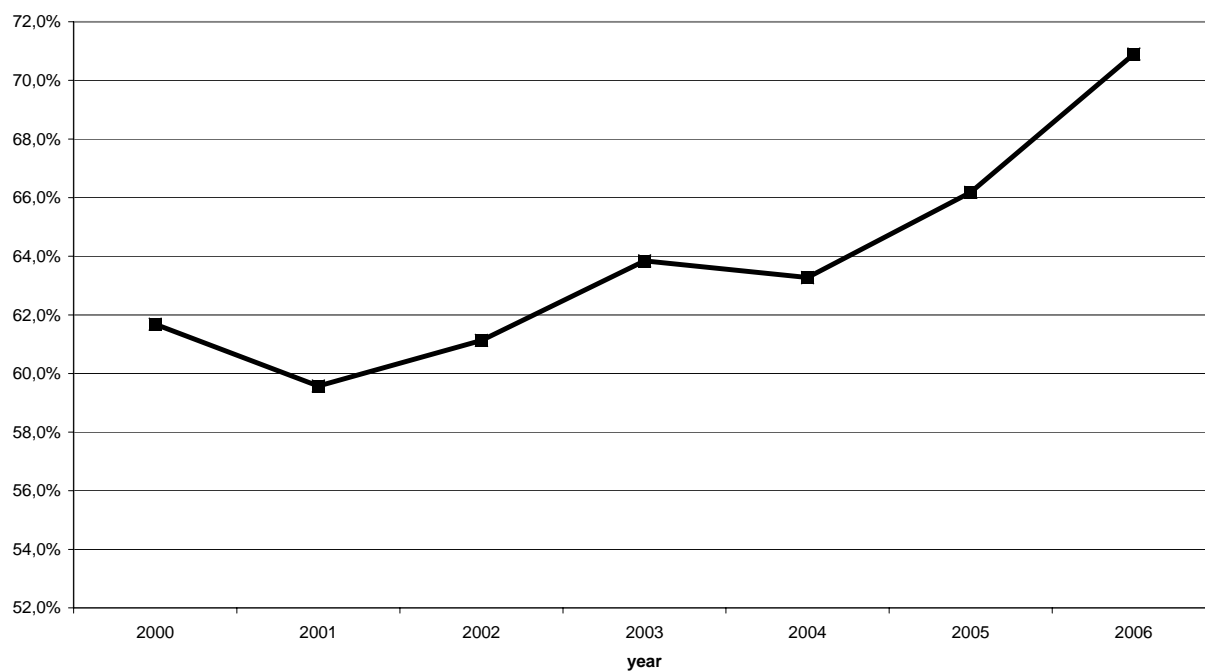
Gender wage gap in the mean wages by year

	2000	2001	2002	2003	2004	2005	2006
Logarithm Female Wage	6,900862	7,326782	7,665601	7,852657	8,048175	8,260388	8,531617
Std. Dev.	0,92685	0,922561	0,864074	0,869063	0,826097	0,819548	0,815188
Logarithm Male Wage	7,336961	7,798315	8,093016	8,288501	8,513263	8,652638	8,90055
Std. Dev.	1,011466	0,977463	0,920892	0,900373	0,849491	0,874028	0,777068
Differential	0,436099	0,471533	0,427415	0,435844	0,465088	0,39225	0,368933
Mean Female Wage	1497	2265	3006	3660	4309	5315	6886
Mean Male Wage	2426	3802	4918	5733	6810	8031	9713
Female-Male Wage Ratio	61,7%	59,6%	61,1%	63,8%	63,3%	66,2%	70,9%
No of Females	1502	1619	1649	1702	1748	1642	2227
No of Males	1307	1377	1380	1373	1440	1449	1864

Data: RLMS, 2000-2006

¹⁸ Natural logarithm

Female-Male Mean Wage Ratio by year in Russia, 2000-2006



Data: RLMS, 2000-2006

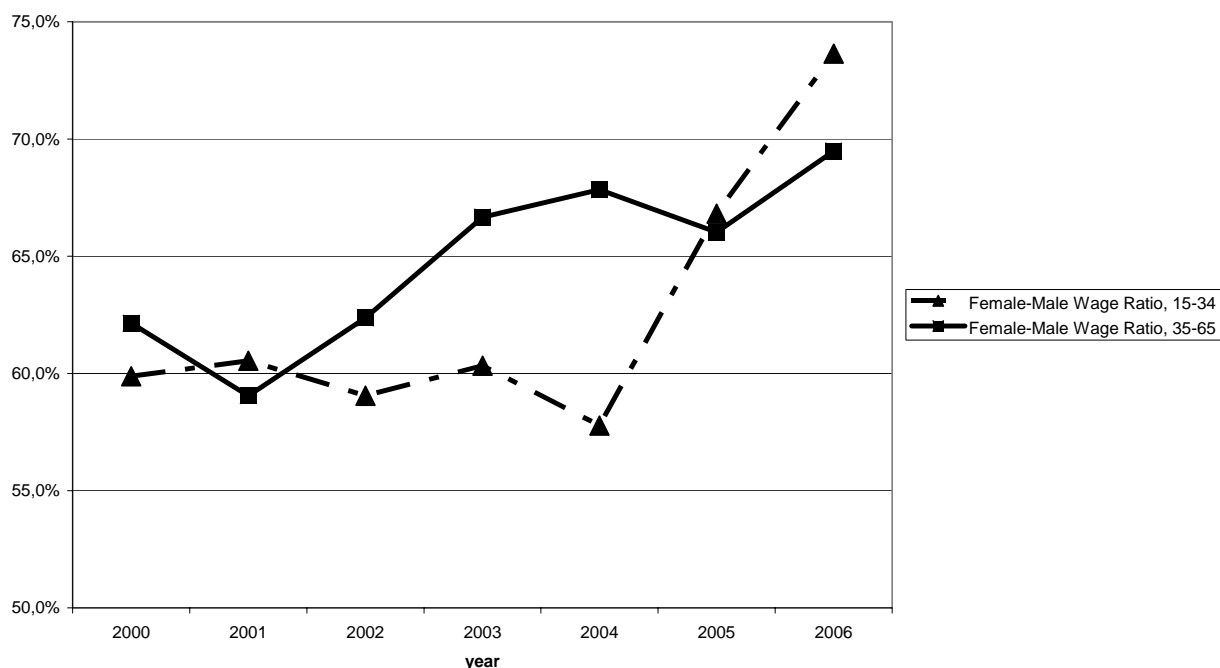
Table 8

Female-male wage ratios by age groups by year

	2000	2001	2002	2003	2004	2005	2006
Female-Male Wage Ratio, 15-34	59,9%	60,5%	59,1%	60,3%	57,8%	66,8%	73,6%
Female-Male Wage Ratio, 35-65	62,1%	59,1%	62,4%	66,7%	67,8%	66,0%	69,5%

Data: RLMS, 2000-2006

Female-Male Mean Wage Ratio within age group by year in Russia, 2000-2006



Data: RLMS, 2006

Table 9

Results of probit analysis on female participation in Russia, 2006

Variables	Age group		
	15-65	15-34	35-65
Age			
Age	.2511467***	.7992288***	.2832341***
Age squared	-.0031835***	-.013709***	-.0034395***
Education			
Some secondary school	Ref	Ref	Ref
Technical community college and/or vocational training	.4357403***	.5454067***	.334402***
Higher education	.7235609***	.7477204***	.6033692***
Marital Status			
Unmarried	Ref	Ref	Ref
Married	-.0579382	-.0564926	-.1068539
Some characteristics of the household			
Children under 3 year old	-.3113538***	-.4545676***	-.6645012**
Size	-.0713048***	-.082189**	-.0589932*
Total income excluding females' earnings	-.0513269*	-.0601036	-.0342214
Constant	-3.797286***	-10.46488***	-4.872124***
athrho	.0274774	.0885042	-.3145665
Log likelihood	-3740.26	-1338.519	-2318.645
N	3486	1416	2070

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10

LgWage	Results of earnings equations of women and men					
	15-65		15-34		35-65	
	Women	Men	Women	Men	Women	Men
Education						
Some secondary school	Ref	Ref	Ref	Ref	Ref	Ref
Technical community college and/or vocational training	.2476525***	.0733296	.3252659***	.1722455*	.1519959**	.0218345
Higher education	.5630054***	.3232068***	.5264309***	.3768586***	.4887033***	.305409***
Children in the household						
Children under 3 year old	-.6186774***	.303133***	-.6111707***	.2721449***	-1.055593***	.3898175***
Experience						
Specific record	.0054917	.0202225***	-.0088717	.0620393**	.0085188	.0130963*
Specific record squared	-.0001228	-.0005072**	.0011561	-.0030708	-.0001	-.0003213
Industry						
Light Industry, Food	Ref	Ref	Ref	Ref	Ref	Ref
Civil Machine Construction	-.0397477	-.0547698	-.1430039	-.2338444	.0033698	.041753
Military Industrial Complex	-.0599646	.0627383	.1035892	-.1553902	-.0223942	.1262025
Oil and Gas Industry	.2886346*	.2025804*	-.0868527	-.1024113	.4173467**	.3562982**
Other Branch of Heavy Industry	.153132	.2411576**	.2636989	.086365	.1162212	.3222505**
Construction	.2104641*	.2032567**	-.0648752	.0392782	.3876451***	.3035947**
Transportation, Communication	.0399795	.1021113	.1701792	-.0016645	-.015633	.1587925
Agriculture	-.4236488***	-.8116694***	-.2876082	-.8081432***	-.4181072***	-.8054758***
Government and Public Administration	-.1995538	-.1215044	-.3134983	-.3173024	-.0787545	-.0589392
Education	-.3105855***	-.4120027***	-.401387*	-.6574486**	-.2559605**	-.3258317*
Science, Culture	-.3180151***	-.2766852*	-.2068931	-.4112956*	-.3250789**	-.2497729
Public Health	-.1968014**	-.3480048**	-.2227658	-.6099426**	-.1891451*	-.2105883
Army, Ministry of Internal Affairs, Security Services	.0238574	-.1295273	.1544676	-.2217689	-.0816888	-.1428168
Trade, Consumer Services	.0237757	.0733676	.0662651	.0184695	-.0210107	.0686726
Finances	.1776309	.2025915	.0776582	-.0257516	.2806919*	.4170489
Energy (Power) Industry Housing and Communal Services	.1739339	.1380178	-.1619291	.3501126	.3016189	.0815282
Other	-.2480583*	-.1956585*	.2277842	-.4067269*	-.2839985**	-.1177201
Some characteristics of job place						
Working hours	.0094507***	.0055233***	.0070598**	.0035825	.0100503***	.0066457***
Supervising duties	.2699821***	.3204686***	.2585596**	.3596278***	.2861345***	.3049631***
Region						
Central	Ref	Ref	Ref	Ref	Ref	Ref
North Western	.2266115***	.2847477***	.1969005	.4130156***	.2136018***	.2265506**
Southern	-.410224***	-.2276416***	-.4597425***	-.226229**	-.4183678***	-.2295458**

Volga Basin	-0.3692194***	-0.3930479***	-0.4136277***	-0.3996918***	-0.3882115***	-0.3986928***
Ural	-0.2083007***	-0.2553339***	-0.1292458	-0.228084*	-0.265265***	-0.2910983***
Siberian	-0.2951542***	-0.3628748***	-0.4259326***	-0.3977613***	-0.26387***	-0.3403011***
Far Eastern	-0.1708782	-0.0508978	-0.2826935	0.0535806	-0.1553878	-0.1076747
Constant	8.084433***	8.556146***	8.24615***	8.641872***	8.258028***	8.512618***
N	3639	1682	1471	647	2168	1035

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11

Results of decomposition

	15-65	15-34	35-65
Female-Male Wage Ratio	70,9%	73,6%	63,5%
Percentage due to endowments	26,6% ¹⁹	25,5%	34,0%
Percentage due to discrimination	73,4%	74,5%	66,0%

Table 12

Sources of gender wage gap

	15-65	15-34	34-65
Education	11.3	5.2	12.2
Children under 3	-8.4	-16.4	-3.3
Marital status	-6.5	-4.8	-6.4
Specific record	-5.7	-21.9	1.9
Specific record squared	2.6	10.4	-0.1
Industry	-3.9	6.7	-9.0
Working hours	13.8	13.9	13.0
Supervising duties	-0.9	-2.0	-0.3
Ownership of the enterprise	-12.9	-13.4	-10,8
Region	-1.1	-7.8	0.2

¹⁹ Percent from the total gap