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Gender Differences in Occupational Mobility and Segregation at the Labor Market

The Case of Russian Economy

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This research analyses the influence of the differences in occupational mobility of men and women on gender segregation at the Russian labor market during 1985–2002. At the basis of the occupational mobility model which takes into account the gender differences in social roles, we estimate the input that individual characteristics and parameters of current occupation, characteristics of the local labor market make into probability of occupational mobility of employees of the different genders and probability of choice between different "gender-dominated" occupations, as well. The results prove that segregation decrease through occupational mobility is possible depending on increasing competitiveness of women at the labor market and eliminating factors preventing their access to employment in the private sector. Positive returns to occupational mobility in terms of wage growth were discovered for both gender groups.

Keywords. Russia, occupational mobility, gender segregation, occupational choice, return to mobility.

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CONTENTS

NON-TECHNICAL SUMMARY

Labor market of any country is characterized by a certain degree of occupational gender segregation, and objective evaluation of this phenomenon requires clear understanding of the changes of this level over time, processes at the labor market and in society as a whole facilitating strengthening or decrease of gender asymmetry in distribution of employers among occupations. It also takes understanding of the results caused by segregation.

This research analyses the issues stated through the prism of occupational mobility which on the one hand reflects employers' desire to work in certain spheres of activity and on the other characterizes real employment opportunities. It is shown on the basis of data of the Russian Longitudinal Monitoring Survey that change of occupation by workers of Russian companies and enterprises does not facilitate gender segregation decrease as far as the probability of men and women moving into those professions dominated by their respective gender, is low.

Estimated models of occupational mobility and choice of occupation among one of "gender-dominated" groups are designed so as to take into consideration social functions to be performed by employees. The research also tests hypotheses on the influence of individual's social-demographic characteristics and his or her family, parameters of current employment and local labor markets on making decisions on mobility. It is proved that the probability of women moving into "male" and "integrated" occupations is positively influenced by the parameters increasing their competitiveness at the labor market as well as the wage in alternative occupations. Mobility of men into occupations untypical for their gender is related to the possibility of preserving accumulated human capital and work in well-paying private sector.

Occupational mobility significantly facilitates wage growth, especially among women. Nevertheless it does not lead to significant decrease of gender wage gap mostly due to the existence of occupational gender segregation. The results prove the necessity of realizing measures on decreasing gender asymmetry in occupational structure of the Russian economy.

1. INTRODUCTION

Gender segregation at the labor market is a situation disproportional distribution of men and women are among different areas of activities and, as a result, the division of industries, occupations and even enterprises into "mainly male" and "mainly female". Absolute value of gender segregation index depends on many factors of solely methodical character, which are reviewed in this research. But the very fact of asymmetric distribution of men and women across spheres of work is not a positive or negative feature of the labor market. In other words, absolute measurement of gender segregation and even its change can not be a subject of normative analysis without finding out the reasons underpinning feminization of certain areas of activities and masculinization of others and assessing the consequences of such gender asymmetry manifestations at the labor market. If it is necessary such analysis can help in formulating basic principles of policy, aimed at leveling out gender disproportions in labor field.

The basic negative consequence of gender segregation is disparity of the labor activity results for men and women. Disproportional distribution of workers of different gender across occupations explains more than 44% of total gender wages gap in the USA (Bayard *et al*., 1999), 30% in Czech Republic and Slovakia (Jurajda, 2003) and 15% in Russia (Roshchin, 2003). At the same time the problem is not limited only by traditional difference in wages for men and women: research shows that ceteris paribus workers of the same gender (male, for example), occupied in "male" and "female" types of occupations also get different payment for their work (Beller, 1982). That is why there is a great number of researches aimed at defining the causes of gender segregation, as well as to the analysis of factors facilitating its changes (*e.g*. Weiskoff, 1972; Anker, 1997; Blau *et al*., 1998).

Significant changes in the occupational segregation level can be traced only at big time spans. In developed countries during the last 30–40 years there was a decrease of disproportional distribution of men and women across occupations. First of all this tendency can be explained by a significant growth of women's labor force participation rates (Blau and Hendrix, 1979; Belle, 1985; Hakim, 1992). Nevertheless certain changes in occupational gender structure occur during relatively short time-spans and they are related to the scope and direction of labor force mobility.

During the period of transition from administrative to market economy Russian economy underwent significant structural changes, which lead to reallocation of the labor across sectors, industries, as well as between the state of economical activity and non-activity. The shift of employed population across occupations was also great: according to specialists up to 42% of employees changed their occupation during the period of economic reform in Russia (Sabirianova, 2002).

To which extent have these processes participated in changes of gender occupational employment structure in Russia? Does occupational mobility facilitate the decrease of gender segregation at the Russian labor market? How evenly are the benefits of changing occupation distributed among

workers of different gender? These and other issues form the basis of this research which aims at defining and analyzing gender differences in magnitudes, dynamics and determinants of occupational mobility, as well as its influence on gender segregation and wage gap between men and women.

Achieving the stated purpose requires the following activities:

1. conducting comparative analysis of scope and tendencies in male and female occupational mobility in the Russian economy;
2. defining gender differences in probabilities of occupational mobility and factors determining them;
3. analyzing the influence of occupational mobility on changes in occupational gender segregation;
4. estimating of input of occupational mobility into changing gender wages gap.

The structure of the paper is as follows. In the section 2 we present the literature review on the issues of labor and, particularly, occupational mobility and on the causes of gender segregation at the labor market. The methodology of analysis is described in the section 3. The section 4 features the description of existing sources of information on gender employment structure in Russia. The results of empirical analysis of gender differences in occupational mobility are presented in the section 5. The section 6 contains the results of the research of the influence of occupational mobility on changes in gender wage gap. The section 7 is the conclusion.

2. LITERATURE REVIEW

Wage is traditionally viewed as the basic reason for labor mobility. According to job-matching theory, wage is a sign of individual productivity, which depends on the firm where employee works (Jovanovic, 1979; Flinn, 1986). After a certain period of time since the working relationship started we may face the incompatibility of the employee and his / her job. This fact will manifest itself in an employee demonstrating lower productivity compared to the level which can be achieved by the individual in some of the other alternative jobs. Therefore all others being equal the lower the wage is the higher the chance of individual labor mobility is.

An approach which is based on this idea, underpins many of contemporary works on different aspects of labor mobility, including transition economies situation (Bellmann *et al*. (1995); Boeri and Flinn, 1999; Earle (1997); Lehmann and Wadsworth, 2000; Sabirianova, 2002; Lukyanova, 2003). It helps to explain higher intensiveness of female labor mobility, compared to male one. Labor productivity is closely related to the level of accumulated specific human capital, which is lower for women due to the need of leaving labor market because of children (Blau and Kahn, 1981; Becker and Lindsay, 1996). But using this compatibility concept for explaining gender differences in occupational mobility and their influence on gender segregation is limited. It is due to the fact that it

does not allow to cover all the differences in labor behavior which make men and women choose different spheres of work.

Researches using economic instruments in analyzing uneven distribution of men and women among occupations appeared in the second half of the 70th. The neoclassic economic theory explains existence of occupational gender segregation in the context of the human capital theory and the theory of discrimination. The main thesis of the human capital theory in this case is the idea about women being more prone to work in those professions which allow them to combine paid work and household duties.

According to the human capital theory the choice of occupation is related to individual evaluation of return on working in it during life-time. As far as rational behavior suggests women choosing occupations with low losses in wage due to temporary being out of the labor market they have to choose occupations with relatively high starting wage and low return on accumulated professional experience (Polachek, 1981; Anker, 1997).

Besides that women which perform the "double function" need to spend less time for working for wage than men do. As a result women choose such spheres of activities and occupations which allow for more flexible working schedules: either working part-time or combining full-time days and days out of work. At the same time according to the tradition men are supposed to be more attentive to the need of providing financial welfare of their family while making employment-related decisions.

Many authors (*e.g.* Terrell, 1992) speak about self reproducing character of occupational segregation. As far as the choice of occupation is made considering its expected returns, double function of women — employee and mother — alters their decision compared to the ceteris paribus situation. It is not only about undoubtedly important traditions and habits of the society where the choice of occupation is predetermined by existing ideas on typical male and female jobs. Even in a non-patriarchic society women might prefer working in traditionally female areas because it is easier to make a career in the occupation where a woman in executive position is adequately viewed by the society. For example Ogloblin (1999) believes that gender segregation in occupational areas in Russia has institutional base and results from introducing patriarchic Soviet-times views on the role of women in society into labor legislation and constantly repeating them in segregation-leading behavior models in employment and career promotion sphere.

Discrimination on behalf of employers also stipulates the choice of occupational area implicitly, as far as it increases the costs of working in the fields, which are not typical to either of the genders. As Beller (1982) demonstrates, increased control over implementing anti-discrimination legislation increases chances of women to find employment in "male" occupations leading to the decrease in segregation.

Therefore presence of implicit social contract predetermines both different preferences of employees in terms of occupational choice and ways of entering the respective areas (see Fig. 1). This fact influences not only the initial choice of occupation, but also the occupational mobility process.

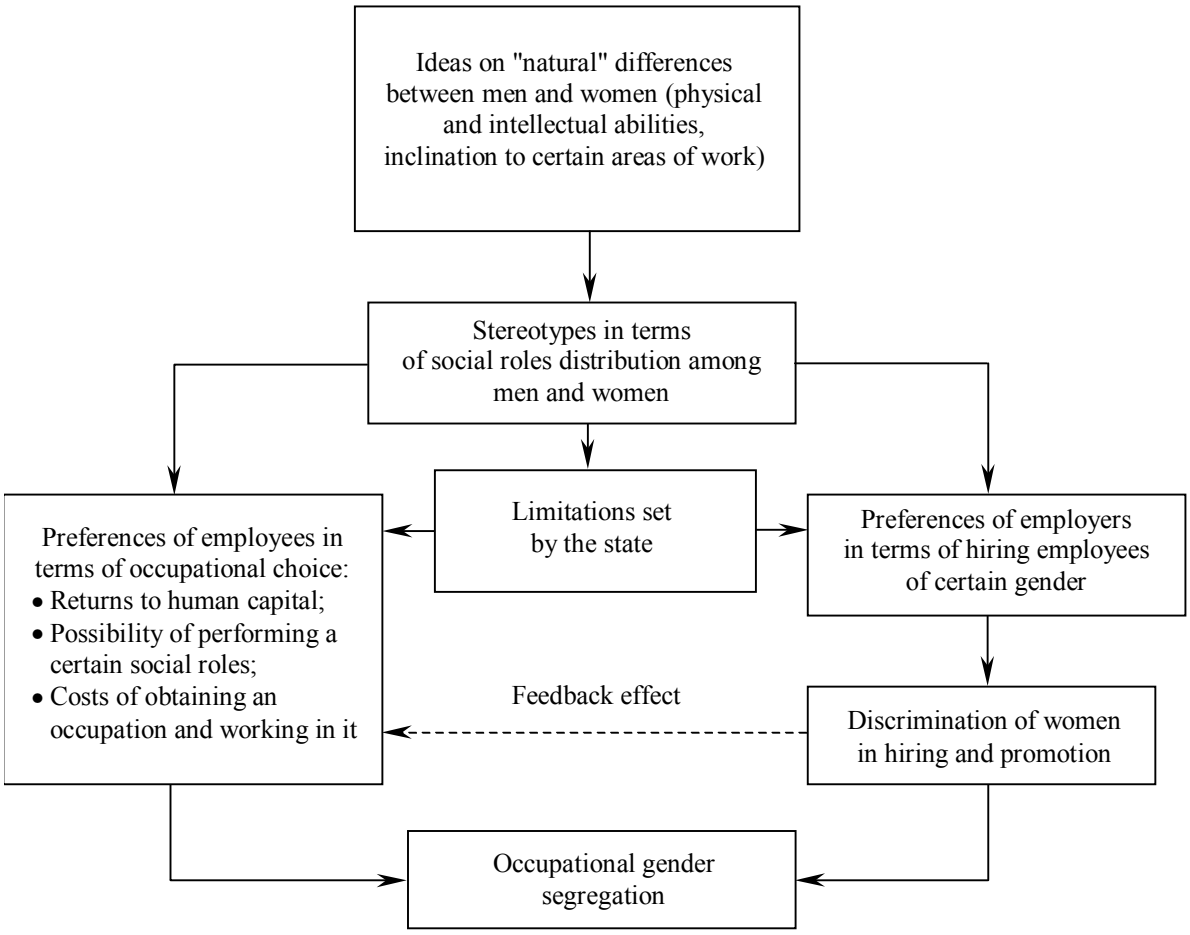

Fig. 1. Mechanisms of occupational gender segregation appearance and support

The relationship between gender segregation and occupational mobility is not widely discussed in economical literature yet. One of the papers concerning the issue of gender differences in occupational mobility is Loprest (1992). In particular, she has found that regardless of similar rates of job mobility, women are less likely to change their occupations when changing job, than men are (in 54% cases *vs*. 66%). Besides that, the existence of gender segregation is displayed through the differences in flows direction: men migrate mainly between "male" occupations, whereas women — between "female". Among main causes of this situation we should note both gender differences in preferences relatively jobs and existence of discrimination practice of employers.

3. METHODOLOGY OF ANALYSIS

To capture the influence of gender differences in labor behavior on occupational mobility and gender segregation we should use an approach according to which the benefits of working in certain occupation can be subdivided in two groups: "monetary" and "non-monetary". The first group includes, first of all, wage, as well as bonuses, additional payments and other types of payments. Non-

monetary benefits can be further subdivided into labor conditions-related (working hours duration; degree of employment flexibility; level of comfort, work-place safety; job security, *etc*.) and additional labor motivation related (access to social benefits; fringe benefits; career promotion perspectives; possibility of on-the-job training *etc*.). It is evident that monetary benefits are influenced by many parameters, such as quantity and content (quality) of accumulated human capital, which allows employee to perform respective functions; field in which the company works and its functional performance; characteristic features of labor market *etc*. The size of employment non-monetary benefits is defined by terms and principles of work organization, as well as a possibility to get social benefits and move further with career development. Accordingly while making decisions on changing the place of work one estimates expected positive outcomes of this decision not only in terms of salary changes, but bearing in mind the whole range of parameters representing employment benefits.

It is possible to say that the size of expected benefit is to a certain degree positively related both with monetary and non-monetary befits: gain is more considerable both in the case of wage increase and in the case of improved terms of employment, that is

$$B = B(W, S), \text{ at that } \frac{\partial B}{\partial W} > 0, \frac{\partial B}{\partial S} > 0,$$

where W and S represent monetary and non-monetary returns to having given occupation, respectively. But according to the compensational differences theory, employment and labor terms facilitating the increase of individual efficacy correlate negatively with the size of monetary award:

$$\frac{\partial W}{\partial S} < 0 .$$

Due to the differences in labor behavior caused by different gender roles relative assessment of employment return components by men and women differs: rational male behavior means stronger orientation towards monetary returns, whereas female preferences are largely oriented towards non-monetary component. The employment gain for different occupations is a function which can be demonstrated as:

$$B = B(\alpha \times W, \beta \times S),$$

where α and β are parameters characterizing individual preferences for monetary and non-monetary components of return to being in given occupation.

It is clear that existence of implicit social agreement influences not only preferences of employees in terms of employment parameters, but also the costs of choosing the occupation. Bearing in mind the above mentioned facts, the model of occupational mobility can be expressed as follows:

$$\Pr(OccMob_g = 1) = \Pr[E(B(\alpha_g \times W_j, \beta_g \times S_j) - B(\alpha_g \times W_i, \beta_g \times S_i)) > E(C_g)],$$

where g shows the gender of employee, j — alternative occupation, i — existing occupation.

Using the Probit-model estimation, we calculate the marginal effects for determinants of the probability of occupational mobility:

$$Prob\ (OccMob_i = 1) = F(X_i, Y_i, M),$$

where the vector of factors includes determinants influencing both the size of benefits and costs of occupational mobility and the preferences on monetary and non-monetary returns to being in some occupation. These determinants are divided into three groups: characteristics of employee itself and its family (X_i); current employment of an individual (at the beginning of the period when the decision on changing occupation is supposedly made) — Y_i; and the local labor market characteristic (M). The specification of the estimating and the hypothesis on the factors included are represented in section 5.

Our approach allows us to analyze the influence which occupational mobility has on gender segregation at the labor market. The main objective is to define which factors influence men and women in choosing occupation which is untypical for their respective gender. That is why our initial suggestion is that one employed at the beginning of analyzed period, chooses between one of three alternatives: 1) not to change occupation; 2) move into occupation dominated by employees of his or her gender ("male" for men and "female" for women); 3) move into the occupation which is not typical for her / his gender ("male" or "integrated" for women and "female" or "integrated" for men. In order to do that for two subsamples — male and female — we estimate an econometric multiple choice model:

$$\frac{P(y_i = m)}{P(y_i = l)} = F(Z_i(X_i, Y_i, M)),$$

where $P(y_i = m)$ is a probability of an individual choosing one of the two alternatives representing a movement to typical or untypical for individual's gender occupation; $P(y_i = l)$ is a probability of occupational mobility absence, which is viewed as a basic state; Z_i is a vector of occupational mobility determinants.

Typical occupations for employees of different genders were defined according to Blau *et al*. (1998) method. Attributing an occupation to one or the other group is based at comparison of female percentage in the given profession and in a total number of employed. The occupation is considered as "mainly female" if $p_{it} > (P_t + 10)$, and "mainly male" if $p_{it} < (P_t - 10)$, where p_{it} is a percentage of women among employed in the occupation i in a year t; P_t is a percentage of women in total number of employed in economy. Other occupations are considered as "integrated".

Most of the researches view wages as the main stimulus for occupational mobility that is the evaluation of occupational change benefits is conducted on the basis of monetary returns increase (*e.g*., Topel and Ward, 1992; Keith and McWilliams, 1995). The calculation of net effect of mobility on wages is done with the help of the following equation:

$$\Delta(\ln W_i) = \alpha + \beta X_i + \gamma Mobility_i + \varepsilon_i,$$

where $\Delta(\ln W_i)$ is a difference in logarithms of wages of individual i between the beginning and the end of period; X_i is a vector of determinants that influence the level of wage, *Mobility* — is a

dummy-variable that is equal to 1 if occupation change has occurred during the analyzed period, 0 — otherwise. Coefficient with this variable — γ — represents the return on occupational mobility.

In order to answer the question whether occupational mobility facilitates the decrease of gender gap in wages we estimate the influence of occupation change on wage changes for men and women bearing in mind the existence of occupational segregation at the labor market.

4. OCCUPATIONAL GENDER STRUCTURE AND OCCUPATIONAL MOBILITY AT THE RUSSIAN LABOR MARKET

4.1. Sources of information

There are several sources of information which allows us to evaluate occupational structure in the Russian economy, as well as the balance of male and female among occupations. First of all there are results of the Russian Labor Force Survey (RLFS) executed by the Federal Statistic Committee of Russia since 1992. Publications with RLFS results present 31 occupational groups, which are very close to the 2-digit classification of the International Standard Classification of Occupations ISCO-88. The basic advantages of the RLFS are its regularity[1] and scope (0.24% of citizens from 15 to 72 years old).

Another source of information on gender occupational structure in Russia is the Russian Longitudinal Monitoring Survey — RLMS, conducted by the North Carolina State University (USA).[2] The advantage of RLMS is that all information on occupational profile of individuals is coded using full 4-digits code system of ISCO-88. So, there is a possibility to measure occupational segregation at any level of desaggregation of the occupational groups. RLMS data are panel-type data which is an advantage for researching of occupational mobility processes. On the other hand there is an usual problem for all panel data attrition caused by individuals changing place of residence which can not always be traced.

Besides that as Sabirianova (2002) says there were many mistakes made while coding respondents' occupations for RLMS. When analyzing occupational mobility it causes significant increase of mobility magnitudes performance. Without access to primary information we corrected occupational codes using the respondents' answers on question about whether they have changed there occupa-

[1] In 1992–1994 and 1996–1998 it was conducted once a year; in 1995 there were two surveys, and since 1999 survey is conducted once in 3 months.

[2] In a survey conducted on the basis of national probability household sample participated people over 15 years old. During each round about 10,000 individuals are covered. The part of the questionnaire devoted to employment contains questions about respondents' status at the labor market, including profession; characteristics of basic and additional employment; revenues from different activities; education; participation in state social programs (for unemployed and pensioners). A detailed description of the survey, sample description and general information is available at www.cpc.unc.edu/projects/rlms. Access to this information is free.

tion during the time period since the previous round. This question features in RLMS questionnaire since 1996. Supposing that in 1995 occupation coding was correct we have RLMS data for the time-period from 1995 to 2002, excluding 1997 and 1999, when the research was not conducted.

Comparison of two data sources demonstrates incongruence of gender occupational composition derived from them. RLMS data demonstrate large asymmetry in occupational spread of men and women (Appendix, Table A1). Compared to RLFS, RLMS reflects much more significant gender gap in employment in such occupational groups as Professionals, Associate Professionals, Craft Workers, and Operators and Assemblers. At the same time we see that in case of higher qualification this difference can be explained by the fact that compared to RLFS, RLMS marks much larger proportion of women working and much smaller male presence in this area. As for craft workers RLMS shows much smaller proportion of women than RLFS.

At the present the discussion about representation of information on occupational structure is still open. The disadvantages of RLMS have been discussed earlier. Nevertheless, as far as access to RLFS micro data is virtually impossible we can not say that official statistic data represent occupational structure better than RLMS does. Besides that due to larger time-span, RLMS information allows to trace dynamic changes in gender structure of employment at the Russian labor market. Besides that panel nature of RLMS data provides an opportunity not only for establishing the interconnection between labor mobility and occupational gender segregation, but also to estimate determinants of individual choice of any occupation — that is, to give an answer to the question about why women and men choose different occupations. Additional advantage of the RLMS data is that it contains information about occupational structure in Soviet times. This type of data is received from the answers to the retrospective questions featuring in the questionnaire from VIII round. Due to above mentioned facts further analysis will be conducted with the use of RLMS data.

Information about the level of occupational gender segregation at the Russian labor market can be also obtained from the Laborsta database by the International Labor Organization (ILO) which offers the distribution of men and women among 9 occupational groups matching 1-digit level of ISCO-88 codification (excluding military officers). This database also provides information on gender occupational employment structure in other countries both with developed and transition economy. As far as while gathering data statistic bodies use ILO guidance, it is possible to speak about comparability of the data for inter-country comparison.

As Table A2 of Appendix demonstrates, in general the level of occupational segregation in Russia (37–38%) is comparable to countries with market economies and some of those with transition economy. Nevertheless there is a certain spread of segregation index: in Greece, Italy, Portugal, Romania and Slovenia it does not exceed 34% while in Denmark, Ireland, Norway and Slovakia it is higher than 39%.

Usually the Labor Force Participation Rate of women is considered as a main factor decreasing occupational segregation (Blau and Hendrix, 1979; Beller, 1985; Hakim, 1992). But as comparison of Table A2 and A3 of Appendix demonstrates, there is no unanimous negative dependence between these two factors. Moreover in Denmark and Norway high Labor Force Participation Rate of

women is accompanied with significant occupational segregation whereas in Italy and Greece, where female labor activity is low, segregation is also insignificant. As the analysis of gender occupational structures demonstrates, the basic factor complementing to segregation index is the level of male and female concentration in such areas as occupations of service workers and skilled workers. The dependence is as follows: in the most industrially developed countries there is the highly pronounced segmentation, where women are concentrated in the first group and men — in the second, which causes segregation growth. In less industrially developed countries men are mostly present as craft workers, but also they are strongly represented in the sphere of trade and service, which causes segregation to decrease. Thus, the level of occupational segregation depends not only on the degree of female involvement into paid work, but also on industry structure of economy.

4.2. Transition to a market economy and changes of occupational gender structure

Many researches state that the more detailed is the list of analyzed occupational groups, the higher is the noticeable degree of uneven male and female distribution across occupations (Gunderson, 1989; Ogloblin, 1999). But the use of maximally disaggregated 4-digit occupational codification at the basis of RLMS leads to overestimated segregation indices. This occurs because with such detalization we get a situation where more than half of occupations have 1 or 2 employees, which can not be an adequate reflection of real distribution of employees across occupations. That is why the calculations are made for 1, 2 and 3-digit codes.

The data in Table A4 of Appendix demonstrates not only an increase of gender segregation while looking at occupations in more detail: dynamics of segregation index changes can also differ. Nevertheless it is obvious that during the period of transition from planned to market economy in Russia gender asymmetry of distribution among the occupations has slightly increased, but during the last couple of years an opposite tendency has been observed.

Table 1 presents information on the changes in gender occupational structure during the period from 1985 to 2002. The changes reflect structural shifts in the Russian economy of the period: decrease of industrial production and growth of service sector. For instance, the proportion of people employed in service and trade grew significantly mainly due to women. There was also a significant decrease of the number of people of both genders employed as operators and assemblers. We should also mention the growth of the proportion of people employed as officials and top-managers which is related to the increase of number of companies (both new and those formed as a result of breaking up old ones).

Analysis of occupational spread of employees across 10 larger units does not allow for tracing all the changes in occupational segregation during the period under discussion. That is why we present calculations made with the use of 2-digit ISCO-88 codes.

At the basis of the data from Table A5 of Appendix we can make certain conclusions. Firstly, the spread of men across occupations is more uneven than of women, but for the period between 1985–2002 there was an opposite tendency: a growth of concentration among women and decrease among men. In 1985 three most wide-spread male occupations boasted more than 53% of all employed men, whereas by 2002 this figure decreased to 44.47%. For women respective figures were 25.70% in 1985 and 30.13%

in 2002. It has to be mentioned that the basic occupations for women are those that require rather a high level of education (excluding those occupations related to trade and services). On the other hand the most wide-spread male occupations are not connected with higher educational level. These are occupations like craft workers and unskilled workers.

Table 1. Changes in occupational gender structure, 1985–2002, %

Occupational groups	1985			1991		
	Female	Male	Total	Female	Male	Total
Senior managers and officials	1.89	3	2.39	1.36	1.93	1.63
Professionals	23.75	12.69	18.8	22.74	11.41	17.31
Technicians and associate professionals	20.43	8.2	14.95	22.57	7.09	15.14
Clerks	12.06	1.17	7.18	12.81	1.20	7.24
Service and market workers	8.48	2.05	5.6	9.33	2.30	5.96
Skilled agricultural workers	0.09	0.25	0.16	0.04	0.60	0.31
Craft and related trades	6.62	27.96	16.17	5.43	28.44	16.47
Operators and assemblers	10.95	34.5	21.49	10.22	34.65	21.94
Unskilled workers	15.5	7.25	11.81	15.19	9.07	12.25
Army	0.23	2.93	1.44	0.30	3.31	1.74
Total	100	100	100	100	100	100
N	3,490	2,829	6,319	2,357	2,173	4,530

Occupational groups	1994			2002		
	Female	Male	Total	Female	Male	Total
Senior managers and officials	0.90	2.73	1.81	4.00	6.46	5.15
Professionals	24.84	13.88	19.40	21.86	9.89	16.27
Technicians and associate professionals	23.78	5.63	14.78	23.38	8.16	16.27
Clerks	11.38	0.91	6.19	10.19	1.66	6.20
Service and market workers	9.83	4.52	7.19	15.18	4.77	10.31
Skilled agricultural workers	0.16	1.08	0.62	0.14	0.97	0.53
Craft and related trades	7.38	30.94	19.07	4.56	25.36	14.27
Operators and assemblers	6.36	30.32	18.25	6.47	28.68	16.84
Unskilled workers	15.29	8.70	12.02	14.04	12.76	13.45
Army	0.08	1.28	0.68	0.18	1.29	0.70
Total	100	100	100	100	100	100
N	2,452	2,414	4,866	2,827	2,476	5,303

Calculated based on: RLMS, Rounds V–IX for individuals age 16–72.

Secondly, men and women are distributed across different occupational groups. Among three most popular female occupations during the period male representation amounted for no more than 11%, while among male popular occupations there were only 4–5% of women. By 1994 the share of men with "female" occupations decreased compared to 1985, whereas by 2002 this figure grew again. In other words changes in gender structure of occupation demonstrate certain distribution of women among occupations typical of their gender, while men significantly increase their presence in other including "female" occupational groups. The rest is especially clear while looking at a group of workers in simple trade and service occupations, where the proportion of men is growing dynamically.

The changes in gender occupational employment structure reflected in segregation index are manifested in two fays: through changes of overall occupational employment structure; and secondly through the changes of proportions of male and female representation in separate occupations. That is the decrease of segregation level can occur due to the decrease of the share of employed in occupations where one of the gender groups is dominant; or as a result of mass income of workers into occupations untypical of their gender.

As Table A6 of Appendix shows, occupational structure of employment in Russia is extremely segregated: among 27 occupational groups only 6 or 7 can be called integrated, while the majority of occupations is dominated either by men or by women. In 1985–2002 women represented 90% of employees in occupational groups of the Life science and health associate professionals, Office clerks, Customer service clerks, and Teaching associate professionals. On the other hand women were virtually nonexistent in such occupations as Metal, machinery and related trades workers, as well as Drivers and operators of mobile plant.

During the period from 1985 to 1994 occupational segregation level grew. This was facilitated by the growth of concentration in gender-dominated occupations, which was caused by the increase of the proportion of men with "male" occupations and women with "female" ones (*e.g.* Metal, machinery and related trades workers; Teaching professionals; Models, salespersons and demonstrators). Both men and women increased their presence in such "female" occupations as Sales and services elementary occupations (overall employment level in these grew from 4.38% to 6.91%) and Other associate professionals.[3] Women employment in "male" occupations decreased which also facilitated segregation growth.

The decrease of segregation level from 1994 to 2002 was caused first of all by continuing entrance of men into "female" occupations (*e.g.* Clerks, Sales and services elementary occupations, *etc.*). At the same time there is an evident decrease of overall employment level in some gender-dominated occupations (Drivers and mobile plant operators; Industrial workers).

The proportion in which gender occupational structure changes complement to the overall change of gender segregation allows to define the decomposition method suggested by Blau *et al.* (1998).

[3] Occupational group of Other associate professionals includes such wide-spread occupations for women as travel agent, administrative secretary, tax officer *etc.*

The equation for the Duncan index calculation at the moment t may be rewritten as:

$$D_t = 0.5\sum_{i=1}^{N}\left|\frac{q_{it}\cdot T_{it}}{\sum_i q_{it}\cdot T_{it}} - \frac{p_{it}\cdot T_{it}}{\sum_i p_{it}\cdot T_{it}}\right|,$$

where $T_{it} = F_{it} + M_{it}$ is the total number of workers of both genders employed in each occupation at the moment t, $p_{it} = F_{it}/T_{it}$ is the proportion women comprise of each occupation's employment, and $q_{it} = 1 - p_{it}$. Then the total change of segregation index between two moments ($\Delta D = D_2 - D_1$) could be decomposed onto two effects:

$$\text{(a) Sex composition effect} = \left(0.5\sum_{i=1}^{N}\left|\frac{q_{i2}\cdot T_{i1}}{\sum_i q_{i2}\cdot T_{i1}} - \frac{p_{i2}\cdot T_{i1}}{\sum_i p_{i2}\cdot T_{i1}}\right|\right) - D_1,$$

due to changes in gender composition within occupations, holding the size of occupations constant;

$$\text{(b) Occupational mix effect} = D_2 - \left(0.5\sum_{i=1}^{N}\left|\frac{q_{i2}\cdot T_{i1}}{\sum_i q_{i2}\cdot T_{i1}} - \frac{p_{i2}\cdot T_{i1}}{\sum_i p_{i2}\cdot T_{i1}}\right|\right),$$

due to changes in the occupational mix of the economy, holding gender composition within occupations constant.

As calculations in Table 2 demonstrate the basic input to gender segregation structure changes in the Russian economy was provided by the Occupation mix effect. Both growth of the index in 1985–1994 and its following decrease for 80–86% was stipulated by redistribution of employees across occupations. In the first case it occurred due to the employment concentration growth in gender-dominated occupations, in the second — due to the decrease of concentration basically as a result of breaking up of "male" occupations. Replacement of workers of one gender by the others within the occupations can explain up to 20% of the overall index changes. At the beginning of the period under discussion there was a tendency for supplanting women in "male" occupations which increased segregation. During the period of reform the growth of men in "female" occupations was positive from the point of view of gender asymmetry decrease.

4.3. Gender differences in magnitudes and directions of occupational mobility

Economic reforms in Russia and the countries of Central and Eastern Europe were accompanied by a significant growth of labor force mobility. Using RLMS data we speak about occupation change in cases when 3-digit occupational codes of an individual do not coincide in two consecutive periods. According to our calculations, the proportion of workers changing occupation during 1990–1995 was 52.18% of all the employed individuals, whereas during the period from 1985 to 1990 this figure was only 32.29% (see Table 3). The levels of male and female occupational mobility were practically

identical with the difference of 2–3%. But while analyzing transitional matrix it becomes obvious that the directions of occupational mobility for different genders had their peculiarities.

Table 2. Decomposition of the gender segregation index changes (1985–2002)

	1985		1994	2002
Segregation index, %	52.72		57.59	52.08
	Change in segregation index			
	1985–1994		1994–2002	
	4.87		–5.51	
Due to effect of:	Absolute	% of total	Absolute	% of total
Sex composition	0.68	13.94%	–1.11	20.15%
Occupational mix	4.19	86.06%	–4.40	79.85%

Note: Calculated based on RLMS. Gender segregation indexes are calculated for 27 occupational groups according to 2-digit codes ISCO-88.

Table 3. Occupational mobility rates in Russian economy, %

	1985–1990	1990–1995	1996–1998	1998–2000	2000–2002
Women	39.17	53	10.11	10.78	14.28
Men	39.43	51.23	14.28	13.37	19.84
Total	39.29	52.18	12.05	11.97	16.82

As it is seen in Tables A7 and A8 of the Appendix, while Russia was moving to market economy (1990–1995) occupational mobility facilitated the growth of gender segregation. Employees were moving to those areas, where representatives of their gender were dominant (for women these were such occupations as Professionals and Technicians and Associate professionals, for men — Craft workers, Operators and Assemblers). The same directions dominated the shift of individuals from unemployed area. Besides that women were much more active in leaving "male" occupations as far as the probability of men leaving "female" occupations was much lower. Analogous process was observed earlier during the period between 1985 and 1990 but gender gap in the probability of moving into the above mentioned groups was not significant. Accordingly it was the commencement of economical reforms in Russia when occupational mobility made main input into gender occupational structure changes.

As Table A9 of Appendix shows, at the present occupational mobility does not facilitate leveling out gender disproportion in occupational gender disproportion. We calculated the probability of

employees moving across gender dominated occupations. It is evident that the growth of male and female percentage in certain occupation might lead to shifting the occupation from one group to another. The "label change" effect is eliminated if we analyze the changes in male and female spread across occupations fixed at the beginning of the period. This gives a chance to analyze the shifts in gender occupational structure caused by employees moving into occupations which before were typical of opposite gender.

It is possible to mention that individuals of both genders are less likely to leave occupations where their gender is dominant. On the contrary the probability of leaving occupations untypical of the respective gender is rather high. It is especially characteristic of men whose mobility level in moving from "female" and "integrated" occupations is much higher than from "male" ones. If they leave their gender occupational group women try to find employment in male group whereas men look for jobs in "integrated" group. The exception for men was the period between 1998 and 2000, during which they were actively moving to "female" occupations. For women 2000–2002 was also an exceptional period when the share of women moving into integrated occupations was higher than of those choosing "male" ones.

The answer to the question about why men and women choose different areas of work while change their occupations will help to find out which factors facilitate the strengthening of occupational gender segregation at the labor market. On the other hand it will help to identify the factors which influence the decrease of gender asymmetry in employees' distribution across occupations.

Occupation or, to put it better, skills and competencies defining its content, are one of the basic characteristics of a work place. It is occupational orientation of the individual which largely predetermines the size of all the returns of work. So it is possible to say that "mainly female" and "mainly male" occupations have different characteristics.

Using RLMS data we have analyzed employment characteristics at the work place of "male", "female" and "integrated" occupations (Table A10 of Appendix). It turned out that representatives of traditionally "male" occupations can count on significantly higher average wages. At the same time men employed in "female" occupations earn 38–40% more than women. In 1996 gender gap in wages was 46.06%. It demonstrates that if a man is employed in an untypical for his gender occupation then most probably it is an executive position which offers high income. In "female" occupations the number of work hours per month is significantly lower than in "male" and "integrated" ones. In general the percentage of people working full-time in "female" occupations is lower than in other two groups. On the one hand this factor has a decreasing influence on the wages, but at the same time it suggests that women prefer to work in occupations which not only allow them to combine work and household duties but also do not require significant work load.

Compared to others workers those employed in "female" occupations are more prone to work for public companies and the number of those working in private sphere is very low. In "female" occupations more employees have subordinates than in "male" ones (up to year 2000 this figure was also higher than in "integrated" occupations). But the average number of subordinates for individuals with "female" occupations is lower.

5. GENDER DIFFERENCES IN DETERMINANTS OF OCCUPATIONAL CHOICE

5.1. Research hypotheses

In order to asses the occupational mobility model which takes into account the differences in male and female social roles we use pooled data from RLMS for three two-year periods: 1996–1998, 1998–2000 and 2000–2002. The sample includes those individuals who were employed at the beginning and end of each reviewed period and provided information on their occupation and the size of wages. Those individuals who stated that they had a job or were on vacation at that period were considered as employed. The scope of the sample was: 2.219 in 1996–1998 (men — 45.43%), 2.383 in 1998–2000 (men — 45.36%), 2.415 in 2000–2002 (men — 45.15%). It has to be mentioned that the gender composition of the sample is slightly shifted compared to official data on employment. According to the information of State Statistic Committee men represent 51–52% of the overall employed population.

In order to define the occupation we use ISCO-88 3-digit occupation codification. Initial codes were corrected in respect to respondents' answers to the question on the changes of occupation since the previous round. As far as this question was incorporated into RLMS questionnaire in 1996, we have comparable data for the time span between 1996 and 2002.

There is a separate question on the estimation of wages changes and monetary income of the family using the RLMS data. Initial figures were inflated to the year 2002 price level using the CPI reported by Goskomstat. Wages are defined on the basis of respondents' answers about wages received at their basic place of employment during the last 30 days. In cases, when the person worked during the last 30 days, but did not get paid, wages were considered to be the average monthly payments that were owed by the enterprise as delayed wage payments (for the detailed discussion of the phenomenon of wage arrears in Russia see Lehmann, Wadsworth and Acquisti, 1999; Earle and Sabirianova, 2000).

Preliminary data analysis (see Table A11 of Appendix) gives us the following conclusions. Young individuals are the most mobile: the level of occupational mobility for workers at the age of 16–25 was 37.4% for men and 23.7% for women (2000–2002). With the course of time the desire to change occupation decreases significantly.

Employees with no children are more mobile on average which is especially true for men. Presence of children even of small ones does not have significant influence on women changing occupations. Men with children under 7 demonstrate higher mobility than those who do not have small children. While the children are getting older occupational mobility of their fathers decreases.

According to the occupational mobility theory there is no interdependence between educational level and occupational mobility. On the one hand the higher educational level is the more specific and narrow the individual's field of knowledge is and that increases mobility costs. On the other hand the probability of occupational mobility for people with occupations requiring significant educational level might increase because theoretically they can claim wider scope of jobs.

In general the first suggestion seems to be right: the level of occupational mobility for both genders without higher education is higher on average. The hypothesis on deterring influence of specific human capital on occupational mobility is supported by the analysis of the occupation mobility intensity: the level of professional mobility significantly decreases while we are moving upwards from medium and vocational education to higher education.

The educational level correlates significantly with the occupation in which individual is employed. That is why it is only natural that on average the workers in professions not requiring higher education demonstrate higher mobility. As for the type of the property of the company it is possible to say that employees in public sector tend to be less mobile (men in 2000–2002 are an exception). Men employed on a part-time basis on average tend to be less prone to changing occupations that those who work more than 140 hours per month. There is virtually no difference in occupational mobility levels between women employed in two sub-groups. Those who do not work on a contract basis change occupations 2 times more intensive. The status of the employee which we define according to the presence of subordinates is more important for women than for men while making decisions on changing occupation. Women with lower status demonstrate higher mobility than those who have subordinates.

The analysis of the employees' characteristics and some terms of employment before making a decision on occupational mobility allow us to define features typical of individuals from certain groups with certain specific features (age, educational level, occupation, *etc*.). As we noticed practically all these groups demonstrate less mobility levels for women compared to men, which allows to suggest that two genders have different criteria for assessing returns of work and occupation.

It seems that significant differences between occupations are manifested in the number of work hours, level of wages and responsibility. Does it mean that women choose occupations with the work schedule which allows performing traditional double function? In other words, is the size of wages and factors influencing it the main determinant of choosing the occupation? Answers to these questions can be obtained from regressive analysis of probability of employees moving either to occupation with his or her respective gender being dominant or to the occupation where the majority is represented by the other gender.

Econometric analysis of occupational mobility influence on gender segregation at the Russian labor market was conducted by econometric estimation of the two models, presented in Section 3: the binary choice model of occupational mobility, and the multiple choice model of one of the gender-dominated occupation. Judging from specific features of male and female labor behavior as well as mechanism of creating and supporting occupational gender segregation it is possible to predict different influence which factors responsible for social role of the individual and determinants accompanying gender roles, will have on choosing employment sphere. The following econometric analysis is aimed at testing several hypotheses:

Hypothesis 1. The presence of family and small children increases occupational mobility costs, so these factors could reduce of probability of mobility for employees of both genders. In case of changing occupation these factors influence women in opting for non-monetary return from work and

the choice of monetary return by men. This happens because in such a situation men pay much more attention to wages, whereas women need a chance to combine work and child care (as it was shown earlier female occupations are much more "profitable" in that sense). That is why the probability of women choosing "female" occupations and men — "male" increases. At the same time older children might not cause differences in professional mobility among workers of different genders.

Hypothesis 2. The higher average per capita income is the higher is the probability of occupational mobility, as far as this means the decrease of mobility costs. At the same time the influence of income per family member on women's choice of occupation is not unanimous. On the one hand lower income might stimulate women in choosing "male" occupations in order to support the financial welfare of the family. On the other hand in case of low per capita income in the family there are few opportunities for replacing women as housewives, which in the situation of occupational mobility increases the probability of women choosing "female" occupations with more flexible working schedule. As for men, higher per-capita income in the family decreases mobility costs and widens the chances for choosing professions by covering "female" area.

Hypothesis 3. The influence of education on probability and direction of occupational mobility is not unanimous. On the one hand employees with higher educational level can claim wider scope of occupations with more dispersed wages, which increases the mobility potential. On the other hand the higher educational level is the higher is the peculiarity of accumulated knowledge, which might not be necessary while changing occupation, which leads to the increase of mobility costs. Higher educational level might support women in moving into "male" occupations due to improved competitive advantages. But as Russian experience shows, majority of "male" occupations require significantly lower educational level than "female" ones. So, movement into "male" occupations could be accompanied with costs related to the loss of accumulated human capital. As a result there can be a negative interdependence between the educational level (years) and the possibility of choosing "male" occupations.

Hypothesis 4. As far as women are supposed to have higher value of "non-monetary" employment component then respective characteristics of workplace will decrease chances of female occupational mobility in general and their move to occupations not associated with their gender. As explanatory variables we use work schedule and ownership of the company. The last variable describes the degree of stability for the labor relations as well as the compliance of the employer to the labor legislation: providing regular wage payments, covering vacations and temporary disability payments which are more typical of public institutions. At the same time as it is well-known the size of wages in private companies is on average higher than in public sector.

Hypothesis 5. All other being equal higher monetary benefit from current occupation decreases occupational mobility, while the size of alternative wages is positively related with employee's mobility.

Calculation of current and alternative wages undertaken in this research is based on the approach suggested by Sabirianova (2002). We use the following equation:

$$\ln(Wage) = \alpha_0 + \alpha_1 \ln(H) + \sum\nolimits_i \alpha_i OCC_i + \varepsilon,$$

where *Wage* is individual's wage per month (considering possible wage arrears) before the survey, *H* is the quantity of work hours per month,[4] *OCC* represents dummy-variables for ten occupational groups of 1-digit ISCO-88 codification. Accordingly expected wage for current occupation *i* for employees of gender *g* is:

$$E_i^g(CurWage) = \alpha_0^g + \alpha_1^g \ln(H) + \alpha_i^g OCC_i,$$

where *H* has average meaning for individuals working in this occupational group. The expected wage for other occupations is calculated as follows:

$$E_i^g(AltWage) = \alpha_0^g + \alpha_1^g \ln(H) + \frac{1}{n}\sum\nolimits_j \alpha_j^g OCC_j,$$

where $j = 1, \ldots, n$ — alternative occupations.

Hypothesis 6. Living in a city increases probability of occupational mobility for all workers, and probability of women's movement into occupations which are not typical of them, as well. This hypothesis is based on the idea that firstly employers at respective labor market have less monopsonic power; and secondly, cities have better developed service and trade spheres which facilitate the decrease of women's household duties.

Besides that according to the suggestion of occupational mobility theory regressive equations include such variables as age and tenure (which must negatively correlate to the probability of occupational mobility).

5.2. Results

Table A12 of Appendix presents the results of the occupational mobility model estimation. The presence of children under 7 limits occupational mobility of men as it was suggested. It is due to the fact that the change of occupation implies additional time and financial costs which is something that families with small children do not have in abundance. In such a situation expected benefits from mobility can be evaluated as lower than expected costs and probability of changing occupation decreases.

Characteristics of the family status do not influence female occupational mobility. But there is positive correlation between the per capita income and female occupational mobility. Women view higher income per family member as a kind of reserve, which decreases mobility costs as far as it gives a chance to decrease time costs for household duties. Marginal effect of this factor for men is negative. In other words higher per capita income decreases men's desire to change occupation.

As it was suggested employees in public sector are less mobile compared to people employed in private companies. This must result from private sector being more flexible and adaptive. Here new

[4] This variable does not correlate with the work schedule variable, as far as it uses criteria of real number of hours at work during the last month, while work schedule variable is based on the average number of work hours a day.

jobs come and go more often and labor relations are much less formalized than in public sector (even with labor contract). The presence of subordinates has a negative influence on women's mobility. It is clear that high status at work increases mobility costs, which is an important factor in making decisions on female mobility.

The hypotheses about negative interconnection between probability of mobility and age and tenure are also proven. During the latter it is possible to say following. Lehmann and Wadsworth (2000) say that in transitional economy specific capital accumulated earlier is frequently not only unnecessary, but also undesirable for an employer. In such a case longer tenure at one company for workers of both genders can partially reflect their unavailability for changing occupation and for competition at the labor market.

There seem to be no influence of gender role differences on probability of occupational mobility. But the influence of occupational mobility on the level of gender segregation is manifested not only in the employees of different genders changing occupations, but in the occupations they choose while doing that.

The results of estimation of the occupation choice model are presented in Tables A13 and A14 of Appendix. It is possible to mention the absence of statistically significant influence of variables, responsible for distribution of social roles, on occupational mobility in general and the choice of occupations from different gender groups. Both for men and women such personal characteristics as age and tenure are important; for older individuals and people with longer tenure tend to be lass prone to changing occupations.

Higher educational level increases chances of both men and women for moving into untypical occupation (compared to choosing alternative of mobility absence). For women this can be related to improving their competitiveness in a struggle for better-paid jobs in "male" areas. As for men the higher educational level stimulates them in choosing "female" occupations not only because they do not want to lose human capital (as it has already been mentioned, "female" occupations require relatively higher educational level). In "female" occupations men earn more then women as far as they occupy executive positions. Besides that positive interconnection between the educational level and move into untypical occupation might demonstrate the absence of entrance barriers for occupation of any gender type for better educated individuals in cases when return from occupational qualities of an employee makes discriminating behavior of employer irrational.

Negative coefficient with tenure variable supports traditional hypothesis about decreasing of mobility with accumulating specific human capital. Probability of female occupational mobility and the choice of untypical occupation for respective gender in such a case is much lower than the probability of choosing occupation from "female" group. This fact can be viewed as a proof of the fact that female workers with long tenure are less psychologically prone for changes and are not willing to claim "male" occupations (men also demonstrate the difference between respective coefficients, but it is insignificant).

The size of alternative wages has significant influence on the occupational mobility of women: the higher it is the higher are the chances of them choosing "male" or "integrated" occupations com-

pared to the situation of mobility absence. Therefore women place high value on the growth of monetary returns of new occupation. This leads us to the conclusion that in case of labor mobility women use behavioral strategy which is more typical of men, because they are oriented towards wages and not towards "non-monetary" return of the occupation.

Nonetheless this result does not say that female labor behavior is not stipulated by performing "double" function — employee and mother. Significantly lower female occupational mobility indices in formulated models demonstrate that costs of changing occupations for women are higher then for men. Women are more prone to have occupations which allow them to combine paid work and household duties, so they do not have incentives for changing occupations. So it is possible to say that there is a certain inter-gender segmentation of behavioral models: those women, who do not want or can not decrease their household duties, implement a passive strategy of behavior without changing occupations or move to "female" occupations. Women with active behavioral strategies tend to be oriented towards "monetary" returns while changing occupations.

Coefficients with dummy-variable which is used for private companies have high statistic significance. Working in such a company increases probability of women moving into an occupation of any type (the probability of choosing an occupation where women are not dominant in terms of quantity is higher) while men tend to move into occupations which are not typical for them. The basic category in this case is a mixed type of property (that is with the public sector participation). Here again we see a situation when segmentation of behavioral models goes not according to the gender of employees, but according to the strategy chosen by an individual at the labor market. The most active and adaptive women working in a private sector of economy get a chance to compete with men for occupations offering better average wages level.

The quantity of population at the female workers place of residence has a significant influence on the probability of choosing "male" or "integrated" occupation, which supports the suggestion that the absence of monopsonic power and better developed service sector (compared to smaller settlements) widen the range of opportunities for choosing occupation.

6. OCCUPATIONAL MOBILITY AND CHANGES IN GENDER WAGE GAP

Wage is one of the most important elements characterizing the return from work at certain area for an individual. Its size reflects many aspects of labor relations: productivity of an employee, level of qualification, work schedule and conditions, existence of other methods of monetary and non monetary stimulation. Besides that wages are determined by such factors as overall economic position at the industry and in the company where the individual works, the situation at the local labor market, institutional factors, such as economical policy of the state.

It has been acknowledged that wages are dependent on the gender of the employee. Table 4 provides data about the difference in wages for men and women during the period between 1996–2002. The first line represents gross percentage wage difference, which was 34.41–36.64%. After 1998 there was an increase of wages received by men.

Table 4. Gender wage gap in Russia, 1996–2002

	1996	1998	2000	2002
Gross differences, %	35.78	34.37	36.66	36.61
Net differences, %	33.93	34.76	36.62	33.84

Calculated based on: RLMS, Rounds VII–XI.

Gross differences in wages are the percentage difference between average monthly wage of men and women ($1 - w_f/w_m$). Net differences are calculated based on the gender dummy-variable coefficient from the regression equation of logarithmic wage on main characteristics of human capital and individual labor supply.

But the numbers representing gross percentage wage difference include the differences related to such facts that women on average work less hours and men have lower average educational level but longer work experience. While calculating net percentage wage difference for men and women we took into consideration such wage determinants influencing employees' productivity as are traditional from the point of view of human capital theory (second line, Table 4).[5] Gender differences in wages even in case of equal parameters of labor offer and human capital remain substantial marginally decreasing compared to net difference and in 1998 even exceeding it.

Net gender wage gap was decreasing between 1996 and 200. But during 2 years from 200 to 2002 it decreased, going slightly below the figure at the beginning of the period under analysis (33.84% compared to 33.93%) which demonstrates a slight decrease in wages related solely to gender and not to the work force parameters.

As it was shown earlier wage is an important characteristic of the job, and individuals consider it while making a decision on changing occupation and place of work. During the process of labor mobility an individual wants to improve his or her position by improving benefits of work. One of the indications for such an improvement is the growth of wages. Therefore due to the change of occupation women get a chance to compensate for the difference in wages with men but only if the change of wages exceeds the growth of wages received by men.

As Table 5 demonstrates, occupational mobility facilitates the growth of wages of the Russian employees. During 1996–1998 it was insignificant — about 7%, but at the background of wages decreases for those who remained in their previous occupation this result also supported the hypothesis of positive influence the mobility has on wages change.

It has to be mentioned that the change of occupation leads to the wages growth for women, who starts getting more than men who are not mobile. In 2000–2002 mobile women demonstrated more dynamic growth of salary than even mobile men did (the growth was 218% for women and 173% for men). This fact is definitely a positive one. But in a situation when gender gap in wages remain insignificant the results received say that first of all before changing occupation women had much

[5] Besides these variables estimated wage equations contained dummies for regions to control the regional price differences.

lower wages than men and secondly, even a significant growth of wages does not let women achieve the level which can be compared to men's salary. Besides that as it has been already mentioned women demonstrate less intensive occupational mobility than men do. All these lead to the situation where occupational mobility does not facilitate the decrease of wage gap for men and women — there is almost no difference in sub-samples of mobile workers and those who remain passive (see Table 6).

Table 5. Average wage growth rates

	1996–1998		1998–2000		2000–2002	
	Changed occupation	Didn't change occupation	Changed occupation	Didn't change occupation	Changed occupation	Didn't change occupation
Whole sample	0.071	–0.074	1.561	1.011	1.937	1.137
Women	0.042	–0.084	1.476	0.901	2.182	1.149
Men	0.099	–0.062	1.635	1.148	1.729	1.122

Table 6. Changes in gender wage gap

	1998		2000		2002	
	Changed occupation	Didn't change occupation	Changed occupation	Didn't change occupation	Changed occupation	Didn't change occupation
Gender wage gap, %	34.70	33.85	36.43	36.66	35.37	34.58

In order to define the occupational mobility role in changing wages we assess the returns from changing occupation in terms of wage growth. First of all we estimate a traditional model of wages change model which is represented in Section 3. The estimation results represented in Table 15 of Appendix show that occupational mobility has a significant positive influence on the growth of wages for women. Ceteris paribus the wages of women grow 13.06% as a result of occupational mobility. Statistic significance of the coefficient reflecting mobility return for men is not high. The increase of working hours has the strongest influence on the wages growth for the employees of both genders. At the same time this coefficient in the model for women is higher than one for men.

This model specification does not allow for considering the existence of occupational segregation at the labor market. That is why the next step was to estimate the modified mobility return model:

$$\Delta(\ln W_i) = \alpha + \beta\, X_i + \gamma\, Occ(t_0)_i + \eta\, Occ(t_1)_i + \varepsilon_i,$$

where $\Delta(\ln W_i)$ is a difference in logarithms of wages for an individual i during the period; X_i — is a vector of factors influencing wages; $Occ(t_0)_i$ is a variable demonstrating the gender-dominated type of the occupation an individual had at the beginning of the period; $Occ(t_1)_i$ is a variable demon-

strating the type of occupation at the end of the period (if there was a case of mobility) or the absence of occupational mobility.

Table 16 of Appendix represents the results of estimation of this model. The occupation at the beginning of the period is an important factor for men. In case if they are employed in "male" occupations, but not in "female" or "integrated" ones their wages all being equal will decrease by the end of the period. Both for men and women occupational mobility has a positive influence over the change of wages. It is also important to which gender-dominated group the employee is moving. The positive effect of women moving into male or integrated occupations is predictable due to average higher wages level characteristic of these occupations. Men moving to "non-male" occupations also witness wage increase (compared to those who do not change occupation). The only possible explanation of this fact is that men moving into female-dominated areas get executive positions.

In this model the growth of the working hours' number has a positive influence of wages growth, while for men respective coefficient is practically insignificant. Therefore in order to provide positive growth of wages for women it is necessary to decrease workload in household for women or decrease rest.

Contrary to that of men the growth of wages among women is positively related to the educational level. It suggests that the level of accumulated human capital is important for the size of wages. Therefore contrary to men women's investments to education bring significant returns.

In general it is necessary to stress out the fact that though occupational mobility supports wages growth for women, at present it does not have significant influence on the level of gender wage gap. To some extent it is related to the existence of occupational segregation at the Russian labor market. In order to obtain the growth of wages women have to move into occupations where representatives of their gender do not have quantitative domination.

7. CONCLUSION

The research conducted was aimed at defining and analyzing gender differences in occupational mobility as well as at estimation of its influence on occupational gender segregation and gender wage gap in Russia. The occupational mobility model suggested in this research allows considering the existence of "implicit contract" according to which women are given such social functions as bringing up children and performing household duties whereas men are in charge financial welfare of the family. This suggestion predetermines the differences in size and structure of costs and benefits of occupational mobility. The basic hypothesis was that while changing occupation women think about non-monetary returns while the main incentive in occupational mobility for men is the desire to get higher wages.

Comparing occupational employment structures in different countries demonstrated that at present the level of occupational gender segregation in Russia is comparable with those in countries with

market economy and some with transitional economy. We demonstrate that the gender segregation level depends not only on the degree of women involvement in paid employment but also on the branch structure of the economy and the presence of employment opportunities for women in occupations untypical of their gender.

During the transition period there were significant changes of occupational employment structure which reflected the structural changes in the Russian economy of that period: decrease of industrial production and growth of service sector. At the same time gender asymmetry in women and men distribution across occupations also increase. This was facilitated by the growth of employment concentration in gender-dominated occupations which occurred due to the increase of proportion of men employed in male occupations and women employed in female ones. Later in 1994–2000 gender segregation slightly decreased as a result of the growth of men's share in female occupations and general decrease of employees in certain major gender — dominated occupations. Decomposition of segregation index demonstrated that the changes in unevenness of male and female distribution across occupations in Russia are mainly related to the changes of overall occupational structure: that is decrease or increase of share of those employed in occupations dominated by one gender.

Occupational mobility both in transition period and at present does not facilitate the decrease of gender segregation. The probability of employees moving to the occupations where their gender is not quantitatively dominant is extremely low. There are significant differences in characteristics of "male", "female" and "integrated" occupations: male ones are better paid and female have less work hours, deal with less number of subordinates and are concentrated in public sector.

Econometric assessment of occupational mobility model did not demonstrate significant influence of gender roles differences on the probability of changing occupation by men and women. A significant difference is that for women higher income per family member increases occupational mobility probability and for men it is a deterrent for occupational mobility. We believe that women view higher per capita income as a reserve fund which decreases potential mobility costs by giving a chance to decrease the time spent on household duties. For men this decreases incentives for changing occupation. Besides that such factors as work in public sector, age and tenure have negative effect on the probability of occupational mobility of both genders.

The influence of occupational mobility on gender segregation level is manifested not only through changes of occupation by workers of different genders, but also through the occupations they choose as a result of mobility. Econometric analysis of the probability of employees choosing an occupation untypical of their gender as a result of mobility demonstrated following dependences. Positive influence on women moving into "male" and "integrated" professions is rendered by parameters, increasing the competitiveness at the labor market, for instance, higher level of education, absence of significant accumulated specific human capital, presence of work experience in private sector of economy. Besides that the probability of such a move increases with the wage growth in alternative occupations and women's place of residence located in the city. In other words, presence of wider opportunities for employment can facilitate segregation decrease through occupational mobility of women.

Though men do not have statistically significant influence of wages size on their occupational mobility the probability of them choosing occupation untypical of their gender is positively related to the employment in private sector, where monetary returns to occupation in any gender dominated type is higher on average. For this group of workers positive influence of educational level on probability of moving into "non-male" occupations is explained by the desire to preserve and realize accumulated human capital as far as it is especially important for "female" occupations.

On the basis of the discovered differences in occupational mobility magnitude, directions and determinants it is possible to say that there is inter-gender segmentation of behavior model: women not willing or not having a chance to decrease their household duties realize a passive strategy without changing occupation or moving into "female" occupations. Women with active behavioral strategies are oriented towards monetary returns while changing occupation and try to move into better paid "male" occupations.

Occupational mobility has a positive influence on wages especially for women. Nevertheless at present it has weak influence on the size of gender gap in wages. To some extent it is related to the existence of occupational segregation at the Russian labor market: in order to obtain positive growth of salary women have to move into occupations where representatives of their gender do not have quantitative domination. At the same time men moving into "female" occupations have positive influence on wages growth.

On the basis of conducted research it is possible to make a conclusion on necessity of developing measures on eliminating gender disproportions in employment structures. As far as direct influence of social roles on occupational choice of employers was not found, it is possible to say that of all the policy measures aimed at providing equal opportunities at the labor market the most important are those that support elimination of barriers preventing women's access to workplaces in private sector as well as decrease wage differences between those working in budget sphere and private sector.

Decisions taken in that respect should include such measures as: activization of work on controlling over employers following the antidiscrimination legislation; realization of programs on stimulating female entrepreneurship; promotion of women to leading positions in state authorities; stimulation of women employment in private sector by using "positive action" measures; increasing attractiveness of workplaces in budget sector of economy (using such methods as practice of gender budget); collecting and disseminating information on labor market situation; supporting women's rights and realization of their opportunities, *etc*.

Realization of these measures on providing equal opportunities is able to increase effectiveness of redistributing workers of different genders among types of activities. This effectiveness will be manifested by equalizing occupational gender and wages. Such changes can lead to decreasing the necessity of state interference with the process.

APPENDIX

Table A1. Comparison of occupational gender structure data from Russian LFS and RLMS, 2001, %

Occupational groups	RLFS Data[a]			RLMS Data[b]		
	Male	Female	Total	Male	Female	Total
Legislators, senior managers, officials	5.35	3.24	4.32	6.75	4.06	5.33
Professionals	12.38	20.13	16.15	9.61	22.49	16.42
Technicians and associate professionals	8.79	21.88	15.15	7.63	22.72	15.60
Clerks	0.80	6.06	3.35	1.43	9.48	5.68
Service and market workers	7.08	16.58	11.70	4.72	15.80	10.57
Skilled agricultural and fishery workers	3.78	4.14	3.96	0.97	0.11	0.52
Craft and related trade workers	26.52	10.97	18.97	25.89	4.59	14.63
Plant and machine operators and assemblers	24.01	3.77	14.18	29.68	6.88	17.63
Elementary occupations	11.28	13.22	12.22	13.32	13.88	13.62
Total	100	100	100	100	100	100

Note: Calculated based on: a — *Obsledovanie naseleniya po problemam zanyatosti*, 2001; b — RLMS, Round X.

Table A2. Occupational gender segregation level, 1997–2002, %[a]

Countries	1997	1998	1999	2000	2001	2002
Developed countries						
Austria	38.30	38.95	39.47	39.41	38.63	38.58
Canada	37.70	36.55	37.58	37.51	37.71	37.65
Denmark	40.35	40.90	n/a	39.04	39.80	39.17
Greece	31.25	31.48	32.21	31.82	32.46	33.28
Ireland	37.30	39.43	40.93	40.57	39.99	41.47
Spain	34.88	35.11	35.86	36.38	36.98	37.96
Italy	29.27	28.35	29.25	28.73	29.03	29.29
Sweden	41.08	40.25	38.66	38.43	37.64	36.92
Portugal	29.38	30.06	30.32	31.35	31.97	33.27
Norway	44.13	43.26	41.91	40.75	39.65	39.29
Transition Countries						
Czech Republic	41.44	41.07	40.52	39.50	38.48	38.87
Hungary	39.96	38.82	39.82	38.78	38.69	38.78
Latvia	34.81	36.01	36.12	35.78	38.10	35.77
Lithuania	33.66	34.63	33.51	34.61	36.13	34.55
Poland	35.83	35.64	35.84	35.35	35.06	34.27
Russia	38.91	38.63	37.94	38.39	37.90[b]	38.18[b]
Romania	29.58	27.70	26.76	25.52	24.43	24.82
Slovakia	39.52	40.32	40.33	39.37	39.61	39.00
Slovenia	31.94	30.39	30.66	30.49	29.61	30.14

Note: Segregation indexes are calculated for 1-digit occupational codes based on: a — Laborsta database (http://laborsta.ilo.org); b — *Obsledovanie naseleniya po problemam zanyatosti*, 2001, 2002.

Table A3. Labor force participation rates of women, 1997–2002, %

Countries	1997	1998	1999	2000	2001	2002
Segregation index <34%						
Greece	36.66	38.85	39.18	38.70	37.57	n/a
Italy	34.81	34.77	n/a	35.78	36.39	n/a
Portugal	49.19	49.40	52.12	53.43	54.11	54.03
Romania	57.67	56.28	n/a	56.40	55.69	n/a
Slovenia	52.35	53.84	51.81	n/a	51.39	n/a
Segregation index >39%						
Denmark	73.39	73.21	n/a	73.83	74.12	73.55
Ireland	42.00	n/a	43.99	n/a	47.55	n/a
Norway	67.20	68.02	68.42	68.87	69.18	69.56
Slovakia	50.65	n/a	52.17	52.84	52.88	52.70

Note: Calculated based on Laborsta database (http://laborsta.ilo.org).

Table A4. Intercorrelation between the gender segregation index and the level of occupational codes

Level of occupational codes	Number of Occupational groups	1985	1990	1991	1994	1995	1996	1998	2000	2001	2002
1-digit codes	10	48.88	48.89	51.58	51.48	52.13	52.17	50.58	51.04	48.01	47.41
2- digit codes	27	52.72	52.40	54.76	57.59	55.13	54.82	55.21	55.61	52.45	52.08
3- digit codes	118	59.63	60.57	63.99	65.42	64.75	64.60	64.34	62.74	60.38	59.66

Note: Here and in following tables calculated based on RLMS for individual aged 16–72.

Table A5. Occupational gender structure in Russia, %

Occupational groups	1985			1994			2002		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Legislators and senior officials	0.37	0.32	0.35	0.04	0.04	0.04	0.14	0.12	0.13
Corporate managers of big firms	0.54	1.24	0.85	0.00	0.00	0.00	1.27	2.75	1.96
General managers	0.97	1.45	1.19	0.86	2.69	1.77	2.58	3.59	3.05
Physical, mathematical and engineering science professionals	8.51	7.78	8.18	4.89	7.46	6.17	3.82	5.05	4.39
Life science and health professional	2.75	1.10	2.01	3.30	1.53	2.42	2.76	1.41	2.13
Teaching professionals	7.13	2.47	5.05	8.97	2.36	5.69	9.20	1.66	5.68
Other professionals	5.36	1.34	3.56	7.67	2.53	5.12	6.08	1.78	4.07
Physical and engineering science associate professionals	5.24	5.90	5.54	3.67	2.11	2.90	3.82	3.80	3.81
Life science and health associate professionals	6.10	0.35	3.53	8.12	0.62	4.40	6.65	0.24	3.66
Teaching associate professionals	2.55	0.00	1.41	2.53	0.08	1.32	1.63	0.04	0.89
Other associate professionals	6.53	1.94	4.48	9.46	2.82	6.17	11.28	4.08	7.92
Office clerks	10.06	1.03	6.01	8.40	0.79	4.62	7.57	1.53	4.75
Customer service clerks	2.01	0.14	1.17	2.98	0.12	1.56	2.62	0.12	1.45
Personal and protective services workers	4.30	1.87	3.21	3.59	3.07	3.33	5.73	3.39	4.64
Models, salespersons and demonstrators	4.18	0.18	2.39	6.24	1.45	3.86	9.44	1.37	5.68

Occupational groups	1985			1994			2002		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Skilled agricultural and fishery workers	0.09	0.25	0.16	0.16	1.08	0.62	0.14	0.97	0.53
Extraction and building trade workers	2.75	10.11	6.05	1.96	9.90	5.90	1.41	9.94	5.39
Metal, machinery and related trades workers	1.23	16.79	8.20	1.92	19.64	10.71	0.96	14.38	7.22
Precision, handicraft, printing and related trades workers	0.60	0.49	0.55	0.49	0.41	0.45	0.46	0.44	0.45
Other craft and related trades workers	2.03	0.57	1.38	3.02	0.99	2.01	1.73	0.61	1.21
Stationary plant and related operators	2.61	2.90	2.74	2.69	4.64	3.66	1.91	3.80	2.79
Machine operators and assemblers	6.68	5.13	5.98	1.92	1.45	1.69	2.79	4.73	3.70
Drivers and mobile plant operators	1.66	26.48	12.77	1.75	24.23	12.91	1.77	20.15	10.35
Sales and services elementary occupations	6.96	1.20	4.38	10.28	3.48	6.91	9.41	6.50	8.05
Agricultural, fishery and related unskilled workers	5.44	3.57	4.61	3.06	2.28	2.67	2.55	1.90	2.24
Unskilled workers in mining, construction, manufacturing and transport	3.09	2.47	2.82	1.96	2.94	2.45	2.09	4.36	3.15
Armed forces	0.23	2.93	1.44	0.08	1.28	0.68	0.18	1.29	0.70
Total	100	100	100	100	100	100	100	100	100
N	3,490	2,829	6,319	2,452	2,414	4,866	2,827	2,476	5,303
Gender segregation index	52.72			57.59			52.08		

Note: Gender Segregation Index is calculated for 27 occupational groups according to 2-digit codes of ISCO-88.

Table A6. Share of women within occupational groups, 1985–2002

Occupational groups	1985	1994	2002
Legislators and senior officials	59.09	50.00	57.14
Corporate managers of big firms	35.19	0.00	34.62
General managers	45.33	24.42	45.06
Physical, mathematical and engineering science professionals	57.45	40.00	46.35
Life science and health professional	75.59	68.64	69.03
Teaching professionals	78.06	79.42	86.38
Other professionals	83.11	75.50	79.63
Physical and engineering science associate professionals	52.29	63.83	53.47
Life science and health associate professionals	95.52	92.99	96.91
Teaching associate professionals	100.00	96.88	97.87
Other associate professionals	80.57	77.33	75.95
Office clerks	92.37	91.56	84.92
Customer service clerks	94.59	96.05	96.10
Personal and protective services workers	73.89	54.32	65.85
Models, salespersons and demonstrators	96.69	81.38	88.70
Skilled agricultural and fishery workers	30.00	13.33	14.29
Extraction and building trade workers	25.13	16.72	13.99
Metal, machinery and related trades workers	8.30	9.02	7.05
Precision, handicraft, printing and related trades workers	60.00	54.55	54.17
Other craft and related trades workers	81.61	75.51	76.56
Stationary plant and related operators	52.60	37.08	36.49
Machine operators and assemblers	61.64	57.32	40.31
Drivers and mobile plant operators	7.19	6.85	9.11
Sales and services elementary occupations	87.73	75.00	62.30
Agricultural, fishery and related unskilled workers	65.29	57.69	60.50
Unskilled workers in mining, construction, manufacturing and transport	60.67	40.34	35.33
Armed forces	8.79	6.06	13.51
Share of women in employment	51.55	50.39	52.31

Table A7. Probabilities of movements between occupations and non-employment, 1985–1990, 1990–1995, women

		Occupational group in 1990										Non-employment	Total
		1	2	3	4	5	6	7	8	9	10		
Occupational group in 1985	1	53.45 [16.13]	12.07	12.07	6.9	0	0	0	0	1.72	0	13.79	100
	2	2.48	70.8 [16.34]	6.89	1.93	0.69	0	0.14	0.55	1.79	0.14	14.6	100
	3	2.22	12.36	54.2 [16.37]	4.12	2.38	0.16	1.58	2.69	5.23	0	15.06	100
	4	5.08	4.01	4.01	53.74 [13.43]	2.94	0.27	2.14	4.55	3.74	0.27	19.25	100
	5	1.52	1.14	3.8	6.08	63.12 [6.63]	0	1.52	1.52	4.18	0	17.11	100
	6	0	0	0	0	0	66.67 [50]	0	0	0	0	33.33	100
	7	0.98	1.95	5.85	5.37	1.95	0	50.24 [7.77]	2.93	12.2	0	18.54	100
	8	0	2.09	2.39	3.88	1.79	0	5.07	54.03 [22.65]	7.76	0	22.99	100
	9	0.62	0.21	2.7	2.49	2.28	0.41	2.9	2.7	50.62 [20.90]	0	35.06	100
	10	0	0	33.33	0	0	0	0	0	0	50	16.67	100
Non-employment		0.43	9.49	7.36	3.94	2.88	0	1.71	2.67	3.09	0.21	68.23	100
Total		2.36	17.86	13.13	8.31	6.09	0.15	4.3	6.64	9.85	0.17	31.14	100

		Occupational group in 1995										Non-employment	Total
		1	2	3	4	5	6	7	8	9	10		
Occupational group in 1990	1	19.3 [18.18]	17.54	7.02	10.53	8.77	0	0	0	14.04	0	22.81	100
	2	1.18	50.71 [23.83]	19.67	5.92	0.95	0	1.66	0.71	2.37	0.24	16.59	100
	3	1.13	8.76	46.61 [18.79]	4.24	4.52	0	1.98	0.85	7.63	0.28	24.01	100
	4	0.92	1.38	7.83	43.78 [17.89]	8.76	0	2.3	1.38	7.83	0	25.81	100
	5	1.82	0	6.67	6.06	42.42 [7.14]	0	0.61	0	8.48	0	33.94	100
	6	0	25	0	0	0	0 [0]	0	0	25	0	50	100
	7	0	0.81	4.88	3.25	2.44	0	35.77 [25]	10.57	12.2	0	30.08	100
	8	0.56	0	5.65	2.82	6.21	0	5.65	36.16 [32.81]	17.51	0	25.42	100
	9	0	0	2.16	3.6	3.24	0	1.44	2.52	43.53 [23.97]	0	43.53	100
	10	0	0	33.33	33.33	0	0	0	0	0	33.33	0	100
Non-employment		0.55	6.04	7.46	2.2	2.63	0	0.99	1.54	3.73	0.11	74.75	100
Total		1.14	11.62	13.68	7.05	5.94	0	3.21	3.95	10.25	0.15	43.01	100

Notes: Probabilities of movements are calculated for individuals of age between 16 and 72 at the beginning of the period.

Occupational groups: 1 — Officials and managers; 2 — Professionals; 3 — Associate professionals; 4 — Clerks; 5 — Service workers; 6 — Skilled agricultural workers; 7 — Craft workers; 8 — Operators and assemblers; 9 — Unskilled workers; 10 — Army. Non-employment includes unemployment and out-of-labor force status.

Probabilities of occupational mobility between 3-digt occupations within each of aggregate group are in brackets.

Table A8. Probabilities of movements between occupations and non-employment, 1985–1990, 1990–1995, men

		Occupational group in 1990										Non-employment	Total
		1	2	3	4	5	6	7	8	9	10		
Occupational group in 1985	1	61.04 [38.30]	10.39	7.79	0	0	0	3.9	5.19	0	0	11.69	100
	2	8.87	68.94 [14.36]	6.83	0.68	0	0.34	4.44	4.44	0.68	0	4.78	100
	3	8.91	8.42	43.56 [10.23]	0.99	1.98	0.5	11.39	10.4	3.47	1.49	8.91	100
	4	10.71	3.57	10.71	32.14 [0]	3.57	0	7.14	10.71	3.57	0	17.86	100
	5	5.88	5.88	5.88	0	47.06 [4.17]	1.96	9.8	7.84	5.88	1.96	7.84	100
	6	0	0	0	0	0	71.43 [20]	0	14.29	14.29	0	0	100
	7	1.06	1.06	2.73	0.76	0.46	0.15	64.95 [26.40]	12.44	4.7	0.46	11.23	100
	8	1.09	0.49	1.7	0.36	0.73	0.12	8.88	72.75 [9.87]	5.11	0.12	8.64	100
	9	1.8	0.6	2.4	0.6	0	0.6	7.78	9.58	58.68 [18.37]	0.6	17.37	100
	10	3.13	3.13	9.38	0	0	0	0	4.69	1.56	73.44	4.69	100
Non-employment		2.58	10.3	7.03	0.47	1.87	0.7	18.03	16.63	4.92	3.04	34.43	100
Total		4.61	10.33	6.86	0.86	1.64	0.5	22.77	29.17	7.4	2.47	13.37	100

		Occupational group in 1995										Non-employment	Total
		1	2	3	4	5	6	7	8	9	10		
Occupational group in 1990	1	37.1 [69.57]	19.35	9.68	4.84	0	3.23	8.06	0	0	1.61	16.13	100
	2	9.03	51.39 [20.27]	9.72	0.69	4.17	0.69	7.64	2.78	1.39	1.39	11.11	100
	3	9.9	11.88	13.86 [35.71]	1.98	4.95	0	17.82	8.91	1.98	1.98	26.73	100
	4	0	0	6.67	33.33 [0]	6.67	0	13.33	6.67	0	0	33.33	100
	5	0	0	4.35	0	43.48 [20]	0	8.7	8.7	0	0	34.78	100
	6	0	0	0	0	12.5	25 [0]	0	12.5	25	0	25	100
	7	1.5	1	1.75	0	1.5	0.25	52.38 [36.36]	10.03	5.51	0.25	25.81	100
	8	0.56	0.19	1.12	0.74	1.3	0.74	13.22	61.45 [12.42]	3.91	0.56	16.2	100
	9	0	0	2.88	0	1.44	1.44	11.51	8.63	33.09 [36.96]	0	41.01	100
	10	3.45	6.9	10.34	0	6.9	0	0	6.9	3.45	48.28	13.79	100
Non-employment		1.57	2.09	4.7	1.04	4.96	0.52	9.66	13.58	4.44	1.04	56.4	100
Total		3.37	6.14	4.02	1.03	3.21	0.76	20.16	24.62	6.14	1.47	29.08	100

Note: see note for Table A7.

Table A9. Probabilities of movement between "gender-dominated" occupations, %

Occupation in 1996		Occupation in 1998			Total	N
		"Male"	"Integrated"	"Female"		
"Male"	Men	95.33 [9.38]	2.58	2.09	100	1,007
	Women	94.61 [3.16]	2.4	2.99	100	167
"Integrated"	Men	7.43	87.84 [2.31]	4.73	100	148
	Women	1.71	91.43 [1.25]	6.86	100	175
"Female"	Men	9.42	4.19	86.39 [1.82]	100	191
	Women	1.25	1.08	97.67 [7.94]	100	1,200
Total, %	Men	73.48	12.18	14.34	100	
	Women	11.41	11.48	77.11	100	
N	Men	989	164	193		1,346
	Women	176	177	1,189		1,542

Occupation in 1998		Occupation in 2000			Total	N
		"Male"	"Integrated"	"Female"		
"Male"	Men	96.15 [10.95]	1.5	2.35	100	1,064
	Women	90.38 [0.00]	1.44	8.17	100	208
"Integrated"	Men	10.06	86.03 [3.9]	3.91	100	179
	Women	0.44	90.75 [2.43]	8.81	100	227
"Female"	Men	5.73	4.46	89.81 [5.67]	100	157
	Women	2.35	1.85	95.79 [6.76]	100	1,189
Total, %	Men	75	12.64	12.36	100	
	Women	13.36	14.22	72.41	100	
N	Men	1,050	177	173		1,400
	Women	217	231	1,176		1,624

Occupation in 2000		Occupation in 2002			Total	N
		"Male"	"Integrated"	"Female"		
"Male"	Men	94.09 [14.34]	3.97	1.94	100	1,082
	Women	93.4 [1.52]	3.77	2.83	100	212
"Integrated"	Men	16.89	79 [7.51]	4.11	100	219
	Women	1.81	89.53 [4.44]	8.66	100	277
"Female"	Men	10.07	4.03	85.91 [10.16]	100	149
	Women	2.19	3.17	94.64 [10.64]	100	1,231
Total, %	Men	73.79	15.31	10.9	100	
	Women	13.37	17.15	69.48	100	
N	Men	1,070	222	158		1,450
	Women	230	295	1,195		1,720

Note: To eliminate the "label change" effect which can occurred due to the growth of male or female percentage in certain occupation we analyze "gender-dominated" occupations according to the occupational gender structure at the beginning of each period.

Table A10. Means for the characteristics of the different "gender-dominated" occupations, 1996 – 2002

Variables	1996		
	"Male"	"Integrated"	"Female"
Average monthly contractual wage	3907.91	3550.32	2681.89
Gender wage gap, %	22.05	28.66	46.96
Hours worked last month	178.75	164.54	158.74
Full-time employment (dummy)	0.965	0.886	0.798
State firms (dummy)	0.616	0.576	0.723
Private firms (dummy)	0.194	0.231	0.181
Mixed ownership (dummy)	0.189	0.193	0.096
Presence of subordinates (dummy)	0.204	0.340	0.223
Number of subordinates	n/a	n/a	n/a
Entrepreneur activity at job (dummy)	0.058	0.127	0.057
Access to social benefits (dummy)	n/a	n/a	n/a
Access to social benefits and guarantees important for women (dummy)	n/a	n/a	n/a
Possibility of on-the-job training (dummy)	n/a	n/a	n/a
N	1,824	498	2,049

Variables	1998		
	"Male"	"Integrated"	"Female"
Average monthly contractual wage	2252.95	2436.88	1584.57
Gender wage gap, %	22.72	41.10	39.24
Hours worked last month	175.06	159.13	153.82
Full-time employment (dummy)	0.951	0.899	0.772
State firms (dummy)	0.590	0.552	0.719
Private firms (dummy)	0.233	0.253	0.184
Mixed ownership (dummy)	0.177	0.195	0.097
Presence of subordinates (dummy)	0.183	0.330	0.212
Number of subordinates	23.082	68.260	13.286
Entrepreneur activity at job (dummy)	0.073	0.098	0.063
Access to social benefits (dummy)	n/a	n/a	n/a
Access to social benefits and guarantees important for women (dummy)	n/a	n/a	n/a
Possibility of on-the-job training (dummy)	n/a	n/a	n/a
N	1,806	569	1,864

Variables	2000		
	"Male"	"Integrated"	"Female"
Average monthly contractual wage	2973.50	2789.28	1941.45
Gender wage gap, %	25.13	31.96	37.18
Hours worked last month	182.06	166.52	159.26
Full-time employment (dummy)	0.960	0.907	0.804
State firms (dummy)	0.543	0.528	0.715
Private firms (dummy)	0.269	0.252	0.189
Mixed ownership (dummy)	0.188	0.220	0.096
Presence of subordinates (dummy)	0.196	0.295	0.204
Number of subordinates	22.223	43.833	18.448
Entrepreneur activity at job (dummy)	0.050	0.055	0.043
Access to social benefits (dummy)	0.531	0.593	0.543
Access to social benefits and guarantees important for women (dummy)	0.826	0.864	0.839
Possibility of on-the-job training (dummy)	0.188	0.180	0.177
N	1,877	691	1,932

Variables	2002		
	"Male"	"Integrated"	"Female"
Average monthly contractual wage	3998.18	4689.94	2979.79
Gender wage gap, %	24.39	45.52	38.51
Hours worked last month	180.28	173.53	157.28
Full-time employment (dummy)	0.974	0.898	0.815
State firms (dummy)	0.496	0.525	0.602
Private firms (dummy)	0.328	0.301	0.316
Mixed ownership (dummy)	0.176	0.174	0.081
Presence of subordinates (dummy)	0.179	0.383	0.210
Number of subordinates	49.080	26.877	17.375
Entrepreneur activity at job (dummy)	0.030	0.073	0.050
Access to social benefits (dummy)	0.598	0.578	0.583
Access to social benefits and guarantees important for women (dummy)	0.826	0.820	0.802
Possibility of on-the-job training (dummy)	0.261	0.265	0.236
N	1,984	1,012	2,320

Notes: Wages inflated to year 2002 according to the CPI. Gender wage gap is a percentage difference between men's and women's average monthly wage. Average duration of a working month of no less than 140 hours was the criteria of full-time employment.

Table A11. Occupational mobility rates by the workers groups

Variables	1996–1998		1998–2000		2000–2002	
	Women	Men	Women	Men	Women	Men
Marital status						
Married	0.085	0.133	0.100	0.115	0.120	0.158
Unmarried	0.111	0.149	0.097	0.173	0.139	0.319
With kids of age 0–7	0.068	0.148	0.117	0.135	0.147	0.181
Without kids of age 0–7	0.100	0.129	0.092	0.116	0.121	0.177
With children of age 7–18	0.101	0.134	0.097	0.120	0.134	0.155
Without children of age 7–18	0.084	0.134	0.096	0.122	0.118	0.201
Age categories						
16–25	0.180	0.228	0.161	0.165	0.237	0.374
25–34	0.090	0.164	0.137	0.133	0.144	0.192
35–44	0.090	0.138	0.091	0.118	0.132	0.160
45–54	0.086	0.103	0.073	0.137	0.082	0.125
55–64	0.041	0.063	0.039	0.039	0.030	0.079
City residence	0.090	0.132	0.097	0.135	0.126	0.176
Village residence	0.099	0.141	0.106	0.088	0.126	0.188
Educational level						
Elementary education	0.104	0.098	0.122	0.089	0.121	0.194
Secondary education	0.100	0.147	0.077	0.123	0.129	0.213
PTU	0.091	0.143	0.178	0.127	0.165	0.185
Professional education	0.085	0.143	0.105	0.158	0.136	0.170
Higher and post-graduate education	0.093	0.139	0.063	0.112	0.088	0.125
Employment status						
Full-time	0.098	0.138	0.101	0.124	0.124	0.181
Part-time	0.071	0.123	0.102	0.109	0.124	0.146

Variables	1996–1998		1998–2000		2000–2002	
	Women	Men	Women	Men	Women	Men
Employment terms						
Officially employed	n/a	n/a	0.098	0.112	0.117	0.167
Non-officially employed	n/a	n/a	0.231	0.313	0.321	0.393
Job position						
With subordinates	0.080	0.113	0.041	0.119	0.095	0.170
Without subordinates	0.097	0.142	0.116	0.123	0.134	0.182
Firm's ownership						
State	0.068	0.116	0.086	0.099	0.105	0.172
Private	0.160	0.210	0.117	0.171	0.147	0.215
Mixed	0.081	0.130	0.111	0.106	0.149	0.104
Occupational groups						
Senior managers and officials	0.167	0.174	0.040	0.195	0.073	0.143
Professionals	0.062	0.107	0.051	0.058	0.074	0.092
Technicians and associate professionals	0.078	0.153	0.095	0.195	0.115	0.208
Clerks	0.088	0.250	0.085	0.278	0.104	0.211
Service and market workers	0.152	0.132	0.137	0.158	0.220	0.246
Craft and related trades	0.115	0.137	0.087	0.122	0.171	0.161
Operators and assemblers	0.103	0.119	0.149	0.090	0.077	0.163
Unskilled workers	0.108	0.204	0.164	0.157	0.181	0.316
Army	0.000	0.045	0.167	0.100	0.000	0.077
N	1 211	1 008	1 302	1 081	1 330	1 095

Note: Calculated for those who were employed at the beginning and the end of each period and provided information on wage and hours worked last month. Characteristics of workers and their employment defined for the beginning of each period. Occupational mobility defined if 3-digit occupational codes are different for the beginning and the end of each period.

Table A12. Determinants of occupational mobility, 1996–2002, probit-estimation (marginal effects)

Independent variables	Women		Men	
	dF/dX	z-statistics	dF/dX	z-statistics
Marital status (=1, if married)	0.000	–0.007	0.006	0.278
Presence of kids of age 0–7	–0.014	–0.983	–0.043[b]	–2.384
Presence of children of age 7–18	0.002	0.215	–0.018	–1.169
Log per capita household income	0.013[c]	1.651	–0.026[a]	–2.872
Age, years	–0.002[a]	–3.683	–0.003[a]	–4.281
Schooling, years	–0.002	–0.628	0.004	1.091
Tenure / 100, years	–0.176[b]	–2.148	–0.411[a]	–3.522
Wage in current occupation	–0.018	–0.424	–0.060	–1.038
Wage in alternative occupations	0.363	1.385	0.218	0.415
Full-time employment (=0, if part-time)	0.003	0.185	0.031	0.861
Working in "typical" for one's gender occupation (dummy)	–0.007	–0.563	–0.010	–0.508
Presence of subordinates (dummy)	–0.030[b]	–2.162	0.031	1.517
State firms	–0.039[b]	–2.461	–0.042[b]	–2.305
Firm with mixed ownership	–0.012	–0.655	–0.032	–1.459
Number of population in place of one's residence / 10,000	0.000	0.885	0.000	0.954
City residence (dummy)	–0.013	–0.894	–0.010	–0.512
Moscow and SPb	–0.047	–0.806	–0.066	–0.733
North-West	–0.016	–0.658	0.025	0.712
Central and Central-Black	0.008	0.382	0.005	0.195
Volga-Vyatsky	0.008	0.340	–0.015	–0.519
Ural	–0.024	–1.118	0.001	0.039
West Siberia	–0.026	–1.015	0.000	0.013
Far East	–0.009	–0.361	–0.032	–1.041
1996–1998	–0.104	–1.391	–0.057	–0.367
1998–2000	0.076	1.000	–0.013	–0.098
N	2,703		2,085	
Wald $chi^2(25)$	86.09		86.57	
Pseudo R^2	0.0465		0.0562	

Notes: Omitted variables: working in "non-female" occupation for women; working in "non-male" occupation for men; Private firms; North Caucasus; 2000 – 2002.

z-statistics are defined with robust standard errors. a — significant at 1% level; b — significant at 5% level; c — significant at 10% level.

Table A13. Determinants of mobility towards different "gender–dominated" occupations, women, Multinomial logit model (marginal effects)

Independent variables	Choice of "female" occupation		Choice of "male" or "integrated" occupation	
	dF/dX	z-statistics	dF/dX	z-statistics
Marital status (=1, if married)	0.144	0.800	0.097	0.390
Number of kids of age 0–7	–0.154	–0.760	–0.167	–0.600
Number of children of age 7–18	–0.037	–0.330	0.076	0.600
Log per capita household income	0.156	1.410	–0.023	–0.170
Age, years	–0.043[a]	–4.630	–0.018	–1.530
Schooling, years	0.060	1.250	0.127[c]	1.940
Tenure / 100, years	–3.273[b]	–2.380	–7.933[a]	–2.970
Wage in current occupation	–0.661	–1.160	–0.039	–0.040
Wage in alternative occupations	2.423	0.680	9.429[c]	1.780
Full-time employment (=0, if part-time)	–0.174	–0.780	0.109	0.310
Working in "female" occupation	–0.101	–0.530	0.194	0.690
State firms	0.251	0.880	0.423	1.040
Private firms	0.792[a]	2.630	1.049[b]	2.430
Number of population in place of one's residence / 10,000	0.002	1.440	0.005[c]	1.920
Moscow and SPb	–1.218	–1.110	–3.724[c]	–1.670
North-West	0.370	1.000	–0.342	–0.550
Central and Central-Black	0.316	0.950	0.260	0.610
Volga-Vyatsky	0.426	1.260	–0.010	–0.020
Ural	–0.125	–0.340	0.055	0.120
West Siberia	0.267	0.680	–0.003	0.000
Far East	–0.216	–0.500	0.633	1.320
1998–2000	1.301	0.610	5.279	1.590
2000–2000	0.695	0.570	3.600[c]	1.860
	N = 2,731		Prob > chi2 = 0	
	Wald chi2(46) = 161.51		Pseudo R2 = 0.0775	

Notes: Omitted variables: working in "male" or "integrated" occupations; Mixed ownership firms; North Caucasus; 1996 – 1998.

z-statistics are defined with robust standard errors. a — significant at 1% level; b — significant at 5% level; c — significant at 10% level.

Base category: no occupational mobility.

Table A14. Determinants of mobility towards different "gender–dominated" occupations, men, Multinomial logit model (marginal effects)

Independent variables	Choice of "male" occupation		Choice of "female" or "integrated" occupation	
	dF/dX	z-statistics	dF/dX	z-statistics
Marital status (=1, if married)	–0.189	–0.820	0.034	0.120
Number of kids of age 0–7	–0.038	–0.210	0.009	0.050
Number of kids of age 7–18	0.033	0.320	0.150	1.090
Log per capita household income	–0.117	–1.230	0.111	0.920
Age, years	–0.029[a]	–3.470	–0.028[a]	–2.680
Schooling, years	–0.050	–1.310	0.214[a]	3.730
Tenure / 100, years	–4.520[a]	–2.990	–5.494[a]	–3.050
Wage in current occupation	–0.512	–1.010	–0.334	–0.450
Wage in alternative occupations	–1.540	–0.350	–5.059	–0.890
Full-time employment (=0, if part-time)	0.777	1.640	0.562	1.130
Working in "male" occupation	–0.206	–1.030	0.148	0.590
State firms	–0.258	–1.230	0.261	0.830
Private firms	0.179	0.790	0.936[a]	2.930
Number of population in place of one's residence / 10,000	–0.001	–0.620	0.003	1.300
Moscow and SPb	0.909	0.890	–1.665	–0.920
North-West	0.151	0.460	0.847[c]	1.770
Central and Central-Black	0.121	0.460	0.361	0.840
Volga-Vyatsky	–0.252	–0.860	0.631	1.410
Ural	–0.194	–0.660	0.576	1.290
West Siberia	–0.251	–0.680	0.888[c]	1.820
Far East	0.093	0.290	0.477	0.950
1998–2000	–0.925	–0.370	–3.087	–0.930
2000–2000	0.028	0.020	–1.384	–0.740
	N = 2,117		Prob > chi2 = 0	
	Wald chi2(46) = 155.59		Pseudo R2 = 0.0833	

Notes: Omitted variables: working in "female" or "integrated" occupations; Mixed ownership firms; North Caucasus; 1996–1998.

z-statistics are defined with robust standard errors. a — significant at 1% level; b — significant at 5% level; c — significant at 10% level.

Base category: no occupational mobility.

Table A15. Returns to occupational mobility — traditional specification of the model, OLS .

Independent variables	Women		Men	
	Coefficient	*t*-statistics	Coefficient	*t*-statistics
Occupational Mobility	0.123[b]	2.229	0.064	1.186
Age, years	–0.004[a]	–2.831	–0.004[a]	–2.693
Tenure / 100, years	–0.034	–0.195	0.281	1.317
Schooling, years	0.011[c]	1.694	0.000	0.010
Changes in log of hours worked last month	0.147[a]	4.637	0.097[b]	2.409
City residence (dummy)	0.012	0.325	–0.021	–0.467
Moscow and SPb	0.085	1.107	0.113	1.271
North-West	0.029	0.335	0.295[a]	2.848
Central and Central-Black	0.057	0.851	0.064	0.852
Volga-Vyatsky	0.039	0.584	0.081	1.039
North Caucasus	0.040	0.553	0.002	0.018
Ural	0.023	0.333	0.057	0.738
Far East	0.012	0.137	0.166[c]	1.667
1998–2000	0.729[a]	19.768	0.743[a]	16.714
2000–2002	0.938[a]	26.373	0.909[a]	22.235
Constant	–0.488[a]	–4.029	–0.401[a]	–3.333
N	3,097		2,462	
R-squared	0.2139		0.1897	

Notes: Dependent variable — changes in logarithms of monthly wage. Omitted variables: West Siberia, 1996–1998.

t-statistics are defined with robust standard errors. a — significant at 1% level; b — significant at 5% level; c — significant at 10% level.

Table A16. Returns to occupational mobility — modified specification of the model, OLS

Independent variables	Women		Men	
	Coefficient	t-statistics	Coefficient	t-statistics
Initial occupation — "female" for women, "male" for men	0.009	0.278	–0.084[b]	–2.068
Movement to "typical" for one's gender occupation	0.081	1.194	0.014	0.211
Movement to "non-typical" for one's gender occupation	0.189[b]	2.139	0.144[c]	1.728
Age, year	–0.004[a]	–2.825	–0.005[a]	–2.879
Tenure / 100, years	–0.035	–0.199	0.296	1.382
Schooling, years	0.011[c]	1.680	–0.006	–0.836
Changes in log of hours worked last month	0.011[c]	1.680	–0.006	–0.836
City residence (dummy)	–0.035	–0.199	0.296	1.382
Moscow and SPb	0.086	1.127	0.106	1.198
North-West	0.028	0.315	0.303[a]	2.919
Central and Central-Black	0.057	0.859	0.067	0.888
Volga-Vyatsky	0.039	0.582	0.077	0.986
North Caucasus	0.040	0.554	–0.001	–0.015
Ural	0.022	0.321	0.058	0.749
Far East	0.012	0.139	0.169[c]	1.703
1998–2000	0.729[a]	19.777	0.746[a]	16.776
2000–2002	0.938[a]	26.310	0.912[a]	22.334
Constant	–0.493[a]	–3.976	–0.256[c]	–1.882
N	3,097		2,462	
R-squared	0.2143		0.1916	

Notes: Dependent variable — changes in logarithms of monthly wage. Omitted variables: Initial occupation — non-typical for an individual of given gender (*i.e.* "male" or "integrated" for women and "female" or "integrated" for men); No occupational mobility; West Siberia; Village residence; 1996–1998.

t-statistics are defined with robust standard errors. a — significant at 1% level; b — significant at 5% level; c — significant at 10% level.

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