Working Paper 1: Returns to Education in the Russian Federation - Zeroth Draft *

Ekaterina Melianova, Suhas D. Parandekar, Harry A. Patrinos, Artëm Volgin

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Abstract

This is the first cut at Working Paper 1 (of proposed 3 working papers) on the Returns of Education in the Russian Federation. The paper shows an interesting pattern of variation in the returns to education from 1994-2018. The paper shows the co-movement of returns to higher education and the return to vocational education. From a policy viewpoint, it shows that returns to education may be strongly influencing decisions of individuals or families regarding their future education trajectories. Policy initiatives seeking to influence enrollment trends at specific educational levels would need to consider the empirical antecedents.

1 RLMS Results

1.1 Data

To estimate returns to education in Russia we employed the Russian Longitudinal Monitoring Survey (RLMS) - the longest panel survey of individuals and households in Eastern Europe and Asia and the only representative Russian survey with a sizable panel component allowing for a dynamic analysis (**kozyreva_081._2015**). The data are notable for their reliability, diversity, and applicability to a variety of research questions. The RLMS embraces information on people's income and expenditure structure, their material well-being, educational and occupational behavior, health state and nutrition, migration, etc. RLMS sampling procedures have been thoroughly and extensively described elsewhere (**kozyreva_081._2015**). The present research uses all 23 waves (1994 - 2018) that are available as of Sunday 22nd December, 2019. The sub-sample selected for empirical investigation in this paper consists of working individuals aged 25-64 who are out of school and have positive labor market experience and income.

*Arranged in alphabetical order of author last names. The entire code used to generate the graphs and tables presented in this paper is available on bitbucket at `https://bitbucket.org/zagamog/edreru/src/master/` , starting from the raw RLMS data graciously provided in the public domain by the National Research University-Higher School of Economics (HSE).

1.2 Methods

Our empirical analysis pertains to the examination of a slightly modified basic specification of a mincer-type wage equation (**mincer_082._1974**). We present results for the general working population of the Russian Federation aged 25-64 as well as by gender and nationality. The specification of focus is as follows:

$$Log(Wage) = b_0 + b_1 \cdot Educ + b_2 \cdot Exp + b_3 \cdot Exp^2 + b_4 \cdot Gender + b_5 \cdot Nationality + \epsilon$$

where $Log(Wage)$ is a logarithm of monthly wage, $Educ$ stands for the highest attained level of education, Exp and Exp^2 reflect the years of working experience and its quadratic term respectively, $Gender$ is a dummy variable for gender, $Nationality$ represents a person's nationality, b_0 is an intercept, $b_1 ... b_n$ are the respective slope estimates, ϵ refers to a normally distributed error term.

1.3 Measures

Dependent variable

For the dependent variable we used the logarithm of an average monthly wage within the past year on a person's primary job (J13.2 variable in the RLMS dataset). If a person had an additional job, the maximum wage value among the two (J13.2 and J40) was selected for the analysis. In the waves from 1994 to 1996 the above mentioned question was absent; for those waves we exploited a variable about the average amount of money earned by a respondent within the past 30 days (J10) as a reasonable approximation.

Independent variables

We distinguished 3 categories for the **education** variable (EDUC): (1) secondary, (2) vocational, and (3) higher. Incomplete levels were incorporated into the respective upper categories (e.g., incomplete higher - into higher). We are interested in exploring returns to vocational and higher education. Estimations of premiums to primary and secondary schooling levels are technically unreachable to us since the number of adults without primary education and the number of adults with only primary level are minuscule in the general population.

1.4 Construction of experience variable

Absence of data regarding a person's actual experience profile often compels researchers to employ a heuristic such as experience is equal to age less the official age of entrance into school and less the duration of schooling in years. However, this method introduces measurement error that drives imprecision in results, especially important if we want to compare changes in the rate of returns to education over time. Fortunately, RLMS is a panel data with most individuals surveyed over multiple years, which allows the creation of a factual experience variable. There is considerable attrition in the data over time, with like for like replacements of households to maintain national representativeness of

the sample. RLMS also follows the somewhat innovative practice of continuing to sample a dwelling if the household residing in the dwelling has moved away; a sampling practice which implies an increasing sample size over time. Another implication of the sampling scheme is that computing labor market experience is a bit complicated and necessitates some assumptions and imputations that are explained below.

To create a variable displaying a person's **experience** we leveraged four questions on the year and a month of starting the primary job and the month of starting an additional job, if applicable (J5A, J5B, J35.2Y, and J25.2M). Based on these variables and the information of the interview date, a labor market experience variable was generated for each unique respondent in the sample by summing up his or her experience registered *across* RLMS waves. If an employed individual had missing values on a date of his or her start of work in a particular survey year, and the individual had appeared at any time in a previous year, the first non-missing record from previous waves was chosen. If only the year of a job start was provided, we standardized computation by imputing the month to be January of that year. In cases of the absence of a valid answer with regard to both year and month of job start in both primary and additional job in all RLMS waves a person was surveyed, such cases ($< 1\%$) were dropped from the analysis. List-wise deletion strategy was also applied to the observations with "negative" experience ($< 1\%$) when according to one's responses a job started allegedly "after" the interview occurred[1]

A routine was therefore elaborated for detecting and fixing inconsistent responses to the questions about experience. The 'quality control' on the experience variable revealed two opposing apparent recollection errors:

1. individuals whose starting date of a first job became at a later date over successive waves (e.g., an individual said in 2001 that she started working in 2000; the same individual in 2005 said she started working in 2002);

2. individuals, naming an earlier job starting date compared to the mentioned preceding dates (e.g., a respondent in 2005 said he had started to work in 2000, but in 2001 he or she replied 1995 had been in fact the beginning year of his or her working activity).

Ideally, people would have perfect recall and not give inconsistent responses about their job history over time. However, we found inconsistent responses for 52% of unique respondents or 40% of instances in the pooled RLMS database (1994 - 2018).In both situations (whether computed experience increased or decreased due to different recollections of start date of first job), the routine used in this paper prioritizes earlier responses, based on the reasoning that memory fades over time. The method used in this paper is not able to eliminate the error, but dealing with it in a consistent manner appears a better approach than simply imputing an experience variable assuming a person started working since finishing education and has been working ever since.

Table 1 shows the results of averaging all the three ways of generating labor market experience by cohorts of respondents aggregated on the basis of the number of incidences in

[1]This step is necessitated because of the mixed panel nature of RLMS. Without proper accounting of experience, with education at a fixed level and changing income for an individuala cross years, there would be avoidable noise and possibly bias introduced on the education coefficient in the Mincerian equation.

the RLMS survey. The first column shows that there were 6667 individuals who appeared only once in the RLMS, 3463 who appeared twice (though could have been different pairs of years), 2793 who appeared three times and so on until the 119 individuals who appeared 23 times in the survey. Table 1 shows the mean values of the experience variable in years as computed by three methods: (EX1) The method outlined above, chosing earliest available data in case of inconsistencies; (EX2) method looking at each year of data independently, ignoring any inconsistencies, and (EX3) Naïve estimates which is simply the age - duration of schooling - 6.

The table demonstrates that the two corresponding versions of experience computed with (EX1) and without (EX2) inconsistency correction gradually increase with the rise of the number of instances an individual appeared in RLMS. These differeces are mostly statistically significant as can be seen from the displayed p-values for a t-test of no significant difference. Overall, this indicates the necessity of harmonizing the data in the described manner.

Table 1: Comparison between Initial and Corrected Versions of the Experience Variable

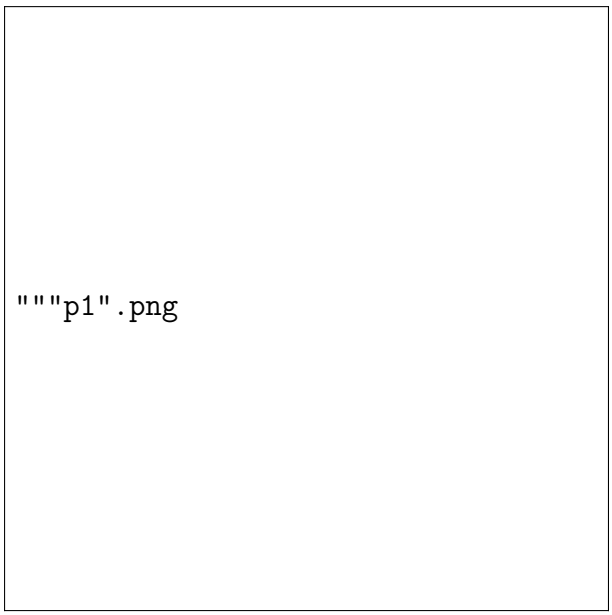
Cohort - number of appearances in RLMS	N individuals	Experience correcting error (EX1)	Experience ignoring error (EX2)	Experience naïve (EX3)	N instances	t-tests EX1-EX2: pvalue	t-tests EX1-EX3: pvalue
01	6667	05.91	06.25	18.91	6667	0.01	0.00
02	3463	06.53	06.97	19.26	6926	0.02	0.00
03	2793	07.60	08.10	20.41	8379	0.03	0.00
04	2556	08.41	08.90	20.35	10224	0.04	0.00
05	1729	07.99	08.82	20.35	8645	0.00	0.00
06	1532	08.56	09.43	20.02	9192	0.00	0.00
07	1273	09.41	10.36	20.45	8911	0.00	0.00
08	1177	10.14	10.88	21.13	9416	0.02	0.00
09	910	10.66	11.75	21.32	8190	0.00	0.00
10	597	10.58	12.08	21.56	5970	0.00	0.00
11	541	10.52	12.04	20.85	5951	0.00	0.00
12	495	11.50	12.93	22.42	5940	0.00	0.00
13	508	12.27	13.95	22.46	6604	0.00	0.00
14	325	12.63	14.10	22.47	4550	0.01	0.00
15	339	13.60	15.28	22.95	5085	0.01	0.00
16	245	12.59	15.28	22.07	3920	0.00	0.00
17	235	13.77	15.99	22.91	3995	0.00	0.00
18	216	14.47	15.72	22.97	3888	0.06	0.00
19	212	14.52	16.34	23.67	4028	0.00	0.00
20	153	14.97	16.84	23.06	3060	0.00	0.00
21	96	16.34	17.13	25.34	2016	0.33	0.00
22	97	17.05	18.92	25.06	2134	0.04	0.00
23	119	19.63	20.88	25.87	2737	0.16	0.00

Finally, two socio-demographic variables were incorporated into the analysis, namely gender and nationality. Gender is included in the specification in the form of a dichotomous dummy variable with "1" standing for females, "0" - for males. Nationality is reflected with a 1 if a person did not identify him/herself as Russian and 0 if Russian.

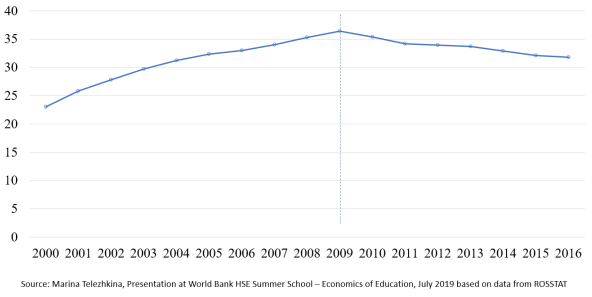
1.5 Findings from Estimation of Mincerian Equation

Figure 1, panel (a) displays rates of returns to higher and vocational education (as compared to secondary education) in Russia in 1994-2018. The results suggest that on average wage premiums to university education in Russia are roughly 3-5 times greater than to vocational schooling. Overall, there is a moderate curved growth in both return types, achieving their peak in the early 2000s (83% for higher education and 26% for vocational education compared to the average earnings of workers with the secondary level), which is followed by a downward pattern (see Figure 1). The interesting pattern to note from panel (a) is the apparent co-movement of vocational education and higher education - the higher education smoothing curve turns a bit more sharply than the one for vocational education, but their movement is matching, even at second order levels of smoothness (SP note to team - we need to superimpose with lighter line showing unsmoothed points). Further, even though higher education premium remains much above the premium for vocational education, there is a pereceptible narrowing of the difference in recent years. Panel (b) which is drawn from a presentation made by Marina Telezhkina at the WB-HSE Summer School on the Economics of Education in July 2019, shows the interesting pattern of higher education enrollment rates for population of 17-25 year olds. Figure 1(b) shows the downturn in returns reflected in enrollments, with the peak in enrollments coming about 10 years later.

Figure 1: Rates of Returns to Higher and Vocational Education in Russia, RLMS 1994-2018



(a) Rates of Return



(b) Enrollment in Higher Education

When we look at the same data with information by gender, it is quite interesting that gender-based trends in Russia have a different shape across time with regard to schooling premiums. Though the percentage fluctuated slightly from year to year, there were about 55% females in the sample compared to 45% males. Particularly, males' payoffs to higher education (varying from 45% to 76%) turn out to be on a slightly decreasing slope, whereas women' returns are described by an inversely U-shaped pattern, reaching their maximum of 104% in 2001. Within the last roughly 5 years wage premiums to higher education for

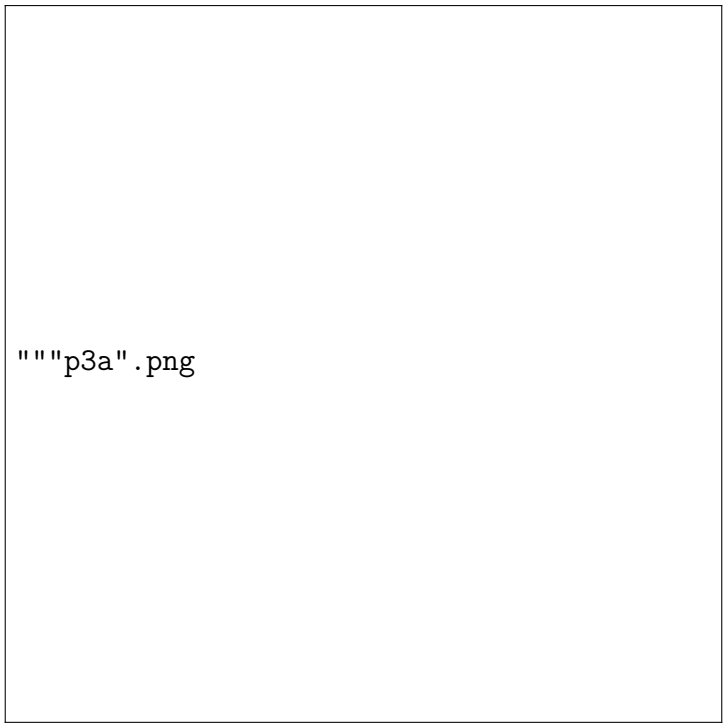
women have stabilized around the level of men (50%). Gender wise enrollment rates in higher education (not shown) ten years later appears to match the differences in rates of return, strengthening the hypothesis that market rates of return to education in Russia do indeed influence individual continuing school decisions.

A similar comparative picture is observed with respect to vocational education, however, the described regularities are way less pronounced (see Figure 2): returns for males are almost flat within the time period under focus and the parabolic association for females is tangibly less concave. The overall outcome concerning payoffs to schooling isolated by gender has been confirmed in a similar fashion by past studies (**cheidvasser_006._2007**), etc .

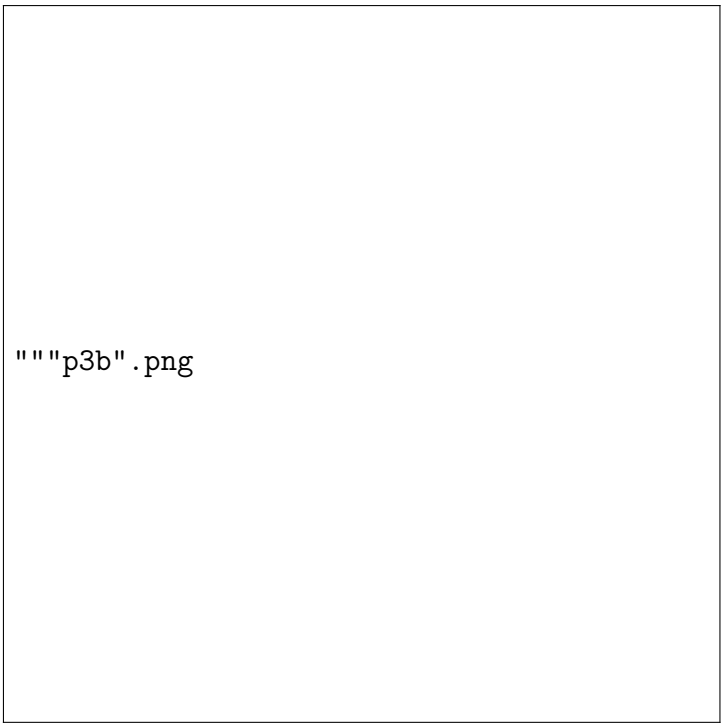
(a) Females **(b)** Males

Figure 2: Rates of Returns to Higher and Vocational Education in Russia, RLMS 1994-2018

Looking at the pattern by nationality, there were approximately 15% non Russian nationals or immigrants in the RLMS database. We find that for Russian nationals, the payoffs to higher and vocational education are characterized by a pattern almost identical to the one uncovered for the whole population. As for non-Russians, the estimates of wage advantages regarding people with university education level compared to those with only secondary level are not statistically significant in the majority of time periods investigated (except for 2002-2006 and 2008). Nevertheless, the payoffs to vocational education for those who identified themselves as non-Russians are significant and the respective time trend is loosely distinguishable from the one registered for Russians. In other words, nationality seem to affect returns to higher education, but does not play a similar part with respect to vocational education.



(a) Russians



(b) Non-Russians

Figure 3: Rates of Returns to Higher and Vocational Education in Russia, RLMS 1994-2018

2 Depreciation of Human Capital in the Russian Federation

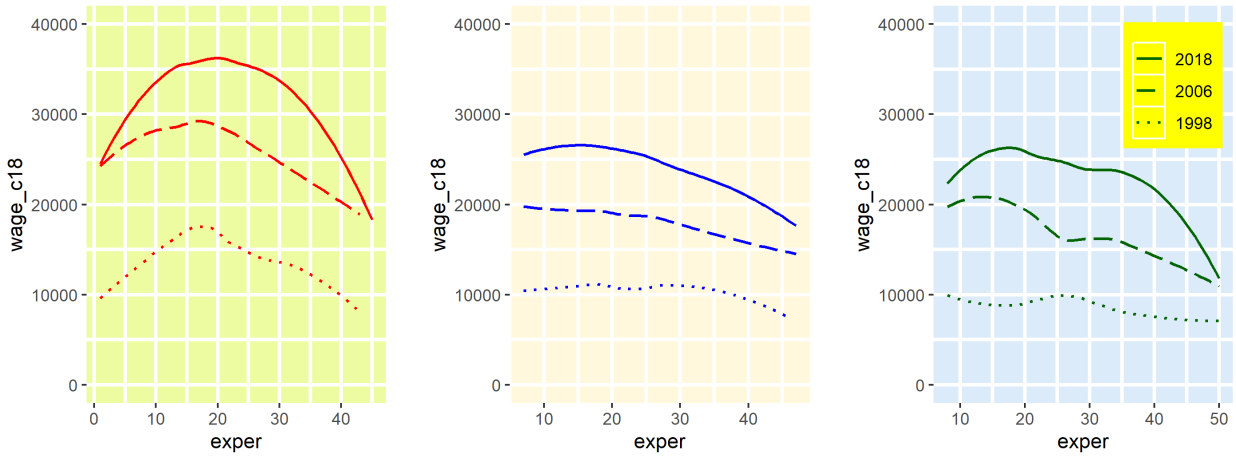
Age-earnings profiles are invariably concave downward shaped - earnings rise after a labor market entrant completes full-time schooling, they reach a peak, usually a few years before retirement and then steadily decline. The shape is an outcome of two countervailing tendencies - the rise attributed to continued accumulation of human capital through training, and the decline due to depreciation. The precise shape and location of the peak is an object of analytical interest. Training derived human capital is either general and transferable to other jobs, or specific to a job, sector, or industry. Depreciation of human capital is useful to investigate from a policy perspective. Just like some physical capital (machinery, buildings) are built stronger and last longer, is it possible that some kinds of education inherently generates human capital that is slower to depreciate? What attributes of the labor market lead to lower or higher levels of depreciation? What about the welfare implications of changes in the age at which individuals retire from the labor force? How has the depreciation rate of human capital changed over time?

2.1 Analytical treatment of depreciation

rosen1976 and **mincer1982** were early treatments on depreciation of human capital. However, in terms of a focus on depreciation, **neuman1995** was a seminal paper that established the basic parameters and has guided the research since that time. The authors introduce the important distinction between two kinds of depreciation or loss of productive potential of human capital. The first one, termed as 'obsolescence' or 'vintage effect' is due to an overall upgrading of technology or the operation of other market forces that

lowers the value of education or training obtained in a previous period. This is also termed as an 'external depreciation', presumably as it is a given for an individual. The second kind of depreciation is attributed to the deterioration of physical and mental abilities of an individual due to the progression of a person's age, or the simple passage of time. This is also termed as 'internal depreciation'. Neuman and Weiss posited that external effects would be more important for higher levels of education, under the assumption that changes in the labor market are transmitted more readily to higher education. They give the example that a recently educated electrical engineer would be learning many new things compared to one of more ancient vintage.

Figure 4 shows for the Russian Federation the effects described by Neuman and Weiss. There are three panels in the figure, and three lines in each figure. The vertical axis indicates the monthly earnings in constant 2018 Rubles, using the Rosstat CPI deflator. The horizontal axis indicates the years of experience. All three panels show an upward drift in the experience-earnings profiles in the period. Only Figure 4a shows a clear concave downwards profile for Higher Education, the concave tendency is much less pronounced for the other two levels of Vocational education and Secondary education. Putting the curves together would suggest that the premium for university education over the other two levels does narrow at higher levels of experience. This converging tendency would suggest that depreciation is indeed higher for university graduates. In the next two sub-sections, we present a more rigorous quantitative treatment of this issue.



(a) Higher Education **(b)** Vocational Education **(c)** Secondary Education

Figure 4: Neuman-Weiss vintage effects by education level from RLMS Rounds 1998, 2006 and 2018

2.2 Differential Depreciation affecting Education and Training

murillo2006 followed the Neuman and Weiss model with a focus on empirical implementation to Spain. We follow the Murillo notation in the implementation of the model, which begins with the following earnings equation:

$$log(W_T) = \alpha + \beta_1 KS_T + \beta_2 KE_T \tag{2.1}$$

where W represents earnings, KS the stock of human capital derived from schooling of S years, and KE the stock of human capital acquired from on the job training or experience, and T indexes the number of years of experience since completing formal education. In

this set-up, the parameters β_1 and β_2 are the productivity parameters for the respective parts of the stock of human capital. Both are assumed to suffer from depreciation or the loss of productive value. At this stage, we do not distinguish between the causes (internal or external) of this loss. The path of the stock of human capital due to education is given by

$$KS_T = S + hTS \tag{2.2}$$

where h is the rate of loss of the stock. The next equation for the loss of stock gained from experience is a bit more complicated. The stock from Schooling, S is taken to be fixed at the end of the full time schooling period and the beginning of the working period. However, experience is being built up every year at the same time as the capital acquired from previous experience depreciates.

$$KE_T = \{1 + (T-1)\gamma\} + \{1 + (T-2)\gamma\} + \{1 + (T-3)\gamma\} + \ldots + \{1\} \tag{2.3}$$

where γ is the rate of loss applied every year. The equation can be simplified and summarized as

$$KE_T = T + \gamma\{(T-1) + (T-2) + (T-3) + \ldots + 1\} = T + \gamma\frac{T^2}{2} \tag{2.4}$$

Substituting equations 2.1 and 2.2 into equation 2.4, we get

$$log(W) = \alpha + \beta_1 S + \beta_1 hTS + \beta_2 T + \frac{\beta_2\gamma}{2}T^2 = \alpha + \beta_1 S + \pi_1 TS + \beta_2 T + \pi_2 T^2 \tag{2.5}$$

where $\pi_1 = \beta_1 h$ and $\pi_2 = \frac{\beta_2\gamma}{2}$.

From 2.5, the depreciation rate during T years applied to Schooling can be computed as $\pi_1 S$ and the depreciation rate applied to Experience as $2\pi_2 T$.

Now see the fun

Table 2

	2018	2012	2006	2003	1998	1994
	(1)	(2)	(3)	(4)	(5)	(6)
Educ, years	0.053***	0.054***	0.074***	0.094***	0.116***	0.113***
	(0.020)	(0.008)	(0.011)	(0.014)	(0.017)	(0.019)
Exper	0.023	0.012*	−0.001	0.016	0.044***	0.053***
	(0.015)	(0.007)	(0.009)	(0.011)	(0.013)	(0.015)
Exper squared	−0.001***	−0.001***	−0.0002*	−0.0004***	−0.001***	−0.001***
	(0.0002)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Educ X Exper	0.0001	0.0003	0.0003	−0.00005	−0.001*	−0.001*
	(0.001)	(0.0003)	(0.0005)	(0.001)	(0.001)	(0.001)
Constant	9.205***	8.889***	7.854***	6.762***	4.720***	10.266***
	(0.301)	(0.129)	(0.175)	(0.217)	(0.252)	(0.293)
Observations	6,112	7,417	4,800	3,856	3,100	3,037
R^2	0.071	0.088	0.078	0.068	0.058	0.043
Adjusted R^2	0.071	0.087	0.077	0.067	0.057	0.042
Residual Std. Error	0.617	0.666	0.715	0.782	0.800	0.934
F Statistic	117.104***	177.952***	101.053***	69.846***	47.678***	34.062***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 3

	2018	2012	2006
	(1)	(2)	(3)
Educ, years	9.953***	9.491***	8.053***
	(0.245)	(0.099)	(0.137)
Exper	0.019	0.026***	0.065***
	(0.019)	(0.007)	(0.010)
Exper squared	−0.026***	−0.028***	−0.015***
	(0.009)	(0.004)	(0.006)
Educ X Exper	0.002**	0.001***	0.001
	(0.001)	(0.0003)	(0.0004)
Observations	6,112	7,417	4,800
R^2	0.061	0.081	0.077
Adjusted R^2	0.061	0.081	0.077
Residual Std. Error	0.621 (df = 6108)	0.668 (df = 7413)	0.715 (df = 4796)
F Statistic	132.517*** (df = 3; 6108)	218.223*** (df = 3; 7413)	133.548*** (df = 3; 47

Note:

3 Extension: Investigation of Gender dimension and depreciation?

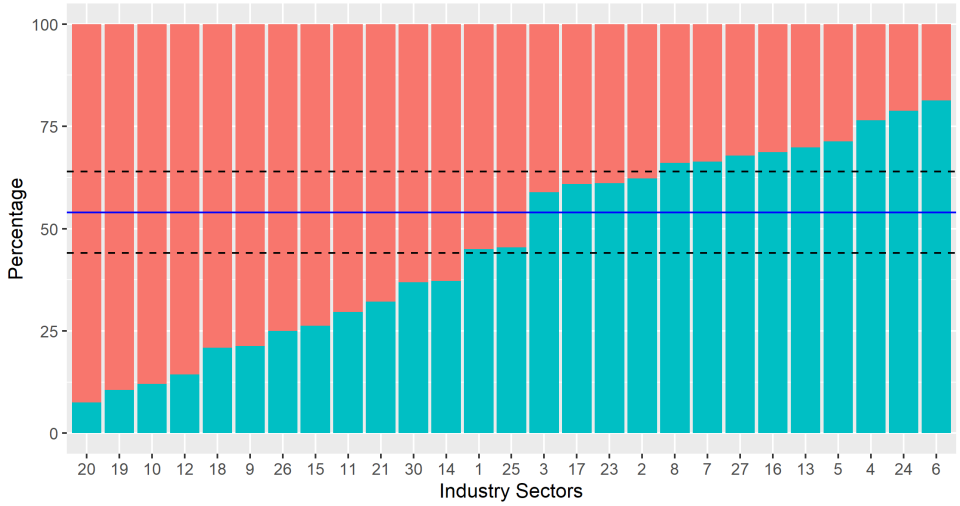


Figure 5: Distribution of Employment in RLMS 2018 by Industry and Gender

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Table 4: Industries by Strength of Female Proportion: RLMS 2018

Category	Sector	Female Sample	Female Percentage	Total Sample
Female dominated	Social Services	37	92.5%	40
	Other	17	89.5%	19
	Education	609	88.0%	692
	Public Health	412	85.7%	481
	Real Estate Operations	19	79.2%	24
	Government and Public Administration	155	78.7%	197
	General Public Services	15	75.0%	20
	Finance	107	73.8%	145
	Science, Culture	100	70.4%	142
	Jurisprudence	19	67.9%	28
Neutral	Mass Media, Telecommunications	24	63.2%	38
	Trade, Consumer Services	738	62.8%	1175
	Light industry, Food industry	209	55.0%	380
	Sports, Tourism,Entertainment	18	54.5%	33
Male dominated	Miltary Industrial Complex	67	41.1%	163
	Housing and Community Services	95	39.1%	243
	Chemical Industry	14	38.9%	36
	Civil Machine Construction	51	37.8%	135
	Agriculture	79	33.9%	233
	Transportation, Communication	186	33.6%	553
	Information Technology	9	32.1%	28
	Energy or Power Industry	41	31.3%	131
	Army, Internal Security	90	30.1%	299
	Other Heavy Industry	60	28.7%	209
	Oil and Gas Industry	52	23.5%	221
	Wood, Timber, Forestry	7	21.2%	33
	Construction	73	18.7%	391
	Total	3303	54.3%	6089

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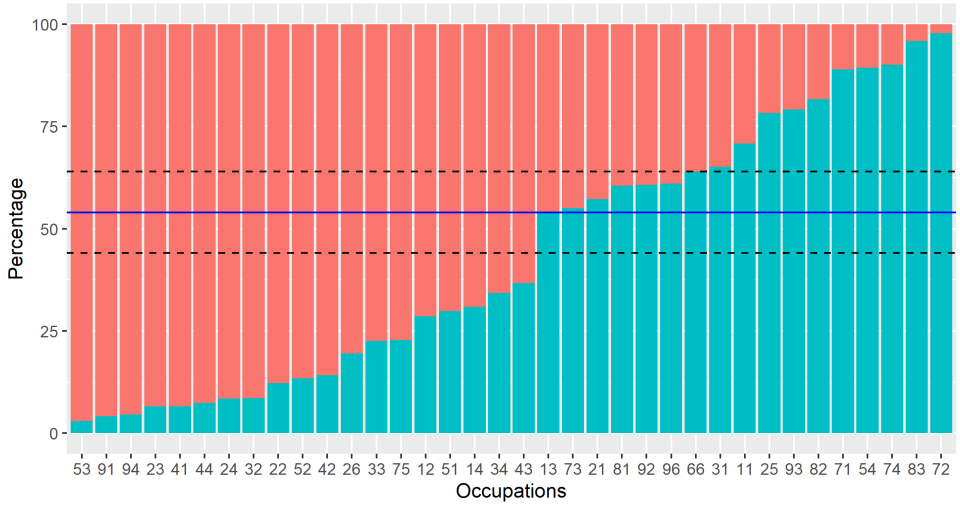

Figure 6: Distribution of Employment in RLMS 2018 by Industry and Gender

References in Russian

This is a Russian reference. досвыдания

Now I cite (**carnoy_005._2012**).

And now Russian (andrushak2010).

Appendix

	ilab	tfem	pfem	tall
1	Personal Care Workers	97	97.0%	100
2	Cleaners and Helpers	163	95.9%	170
3	Food Preparation Assistants	21	95.5%	22
4	Teaching Professionals	370	93.4%	396
5	General and Keyboard Clerks	71	93.4%	76
6	Other Clerical Support Workers	25	92.6%	27
7	Business and Administration Professionals	97	91.5%	106
8	Health Associate Professionals	192	91.4%	210
9	Health Professionals	79	87.8%	90
10	Sales Workers	350	86.6%	404
11	Customer Services Clerks	67	85.9%	78
12	Legal, Social and Cultural Professionals	169	80.5%	210
13	Business and Administration Associate Professionals	517	77.4%	668
14	Food Processing, Woodworking, Garment and Other Craft and Related Trades Workers	51	77.3%	66
15	Administrative and Commercial Managers	25	71.4%	35
16	Personal Services Workers	172	70.5%	244
17	Hospitality, Retail and Other Services Managers	38	69.1%	55
18	Legal, Social, Cultural and Related Associate Professionals	69	65.7%	105
19	Numerical and Material Recording Clerks	100	63.3%	158
20	Production and Specialized Services Managers	139	46.0%	302
21	Handicraft and Printing Workers	9	45.0%	20
22	Science and Engineering Professionals	101	42.8%	236
23	Stationary Plant and Machine Operators	72	39.6%	182
24	Agricultural, Forestry and Fishery Labourers	11	39.3%	28
25	Refuse Workers and Other Elementary Workers	30	39.0%	77
26	Miscellaneous non-ISCO	9	36.0%	25
27	Science and Engineering Associate Professionals	120	34.9%	344
28	Chief Executives, Senior Officials and Legislators	7	29.2%	24
29	Information and Communications Technology Professionals	15	21.7%	69
30	Labourers in Mining, Construction, Manufacturing and Transport	24	20.9%	115
31	Assemblers	11	18.3%	60
32	Building and Related Trades Workers (excluding Electricians)	23	11.1%	207
33	Protective Services Workers	23	10.7%	215
34	Electrical and Electronic Trades Workers	16	9.9%	162
35	Drivers and Mobile Plant Operators	23	4.1%	558
36	Metal, Machinery and Related Trades Workers	6	2.2%	267

Table 5: Results of Mincer Analysis, RLMS 1994

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.141***	0.126**	0.149***	0.153***	0.085
	(0.042)	(0.064)	(0.055)	(0.046)	(0.102)
Higher education	0.498***	0.544***	0.455***	0.522***	0.370***
	(0.047)	(0.072)	(0.062)	(0.051)	(0.121)
Experience	0.007	0.008	0.004	0.001	0.036***
	(0.005)	(0.008)	(0.007)	(0.006)	(0.013)
Experience squared	−0.0002	−0.0004	0.0001	0.00000	−0.001**
	(0.0002)	(0.0003)	(0.0002)	(0.0002)	(0.0004)
Non-Russian	−0.004	−0.056	0.042		
	(0.045)	(0.069)	(0.059)		
Female	−0.499***			−0.513***	−0.438***
	(0.033)			(0.036)	(0.085)
Constant	12.104***	12.132***	11.588***	12.128***	11.979***
	(0.046)	(0.065)	(0.059)	(0.050)	(0.110)
Observations	3,041	1,394	1,647	2,564	477
R^2	0.103	0.049	0.041	0.109	0.083
Adjusted R^2	0.101	0.045	0.038	0.108	0.073
Residual Std. Error	0.906	0.957	0.858	0.905	0.906
F Statistic	57.786***	14.271***	14.057***	62.886***	8.534***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 6: Results of Mincer Analysis, RLMS 1995

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.081*	0.060	0.101*	0.092*	0.023
	(0.044)	(0.066)	(0.060)	(0.049)	(0.109)
Higher education	0.421***	0.392***	0.447***	0.402***	0.549***
	(0.048)	(0.072)	(0.066)	(0.053)	(0.127)
Experience	0.002	−0.002	0.006	0.002	0.004
	(0.006)	(0.009)	(0.008)	(0.006)	(0.015)
Experience squared	−0.0001	−0.00004	−0.0001	−0.0001	−0.00005
	(0.0002)	(0.0003)	(0.0002)	(0.0002)	(0.001)
Non-Russian	−0.041	−0.061	−0.021		
	(0.047)	(0.070)	(0.064)		
Female	−0.431***			−0.437***	−0.386***
	(0.035)			(0.038)	(0.090)
Constant	12.882***	12.936***	12.400***	12.893***	12.790***
	(0.049)	(0.067)	(0.064)	(0.052)	(0.118)
Observations	2,690	1,235	1,455	2,262	428
R^2	0.085	0.032	0.040	0.082	0.105
Adjusted R^2	0.083	0.028	0.037	0.080	0.094
Residual Std. Error	0.897	0.923	0.875	0.891	0.925
F Statistic	41.523***	8.181***	12.128***	40.396***	9.873***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 7: Results of Mincer Analysis, RLMS 1996

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.134**	0.138*	0.129*	0.134**	0.145
	(0.052)	(0.080)	(0.069)	(0.058)	(0.118)
Higher education	0.417***	0.421***	0.408***	0.423***	0.381***
	(0.056)	(0.086)	(0.074)	(0.062)	(0.133)
Experience	0.008	0.008	0.007	0.007	0.019
	(0.006)	(0.010)	(0.008)	(0.007)	(0.018)
Experience squared	−0.0004*	−0.001*	−0.0002	−0.0003	−0.001
	(0.0002)	(0.0003)	(0.0003)	(0.0002)	(0.001)
Non-Russian	0.039	0.043	0.034		
	(0.055)	(0.083)	(0.074)		
Female	−0.477***			−0.475***	−0.499***
	(0.039)			(0.043)	(0.100)
Constant	13.208***	13.230***	12.713***	13.205***	13.245***
	(0.059)	(0.084)	(0.075)	(0.064)	(0.130)
Observations	2,281	1,033	1,248	1,941	340
R^2	0.087	0.036	0.029	0.084	0.104
Adjusted R^2	0.084	0.031	0.025	0.082	0.091
Residual Std. Error	0.929	0.976	0.888	0.934	0.906
F Statistic	35.992***	7.709***	7.501***	35.671***	7.774***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 8: Results of Mincer Analysis, RLMS 1998

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.217***	0.176***	0.253***	0.236***	0.108
	(0.037)	(0.054)	(0.050)	(0.040)	(0.093)
Higher education	0.571***	0.559***	0.586***	0.608***	0.360***
	(0.041)	(0.061)	(0.054)	(0.044)	(0.106)
Experience	0.015***	0.010	0.020***	0.014***	0.022*
	(0.005)	(0.007)	(0.006)	(0.005)	(0.011)
Experience squared	−0.0004***	−0.0004*	−0.0004**	−0.0004**	−0.001*
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0003)
Non-Russian	−0.032	−0.073	−0.0004		
	(0.038)	(0.059)	(0.049)		
Female	−0.470***			−0.483***	−0.406***
	(0.028)			(0.030)	(0.071)
Constant	6.364***	6.447***	5.817***	6.358***	6.373***
	(0.043)	(0.061)	(0.057)	(0.046)	(0.107)
Observations	3,101	1,434	1,667	2,614	487
R^2	0.133	0.064	0.079	0.141	0.095
Adjusted R^2	0.131	0.061	0.076	0.140	0.086
Residual Std. Error	0.768	0.806	0.733	0.767	0.770
F Statistic	79.074***	19.512***	28.374***	85.755***	10.119***
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 9: Results of Mincer Analysis, RLMS 2000

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.205***	0.131**	0.285***	0.222***	0.110
	(0.039)	(0.056)	(0.053)	(0.042)	(0.101)
Higher education	0.551***	0.469***	0.630***	0.576***	0.413***
	(0.043)	(0.064)	(0.057)	(0.046)	(0.113)
Experience	0.009*	0.001	0.016**	0.008	0.014
	(0.005)	(0.008)	(0.007)	(0.006)	(0.016)
Experience squared	−0.0002	−0.0002	−0.0002	−0.0002	−0.0004
	(0.0002)	(0.0003)	(0.0002)	(0.0002)	(0.001)
Non-Russian	−0.001	−0.016	0.002		
	(0.042)	(0.065)	(0.055)		
Female	−0.534***			−0.536***	−0.511***
	(0.030)			(0.032)	(0.081)
Constant	7.071***	7.207***	6.398***	7.059***	7.120***
	(0.046)	(0.065)	(0.062)	(0.049)	(0.123)
Observations	3,213	1,475	1,738	2,765	448
R^2	0.128	0.042	0.078	0.133	0.104
Adjusted R^2	0.127	0.038	0.075	0.131	0.094
Residual Std. Error	0.830	0.861	0.799	0.829	0.835
F Statistic	78.748***	12.777***	29.233***	84.557***	10.307***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 10: Results of Mincer Analysis, RLMS 2001

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.196***	0.113**	0.289***	0.204***	0.140
	(0.036)	(0.052)	(0.050)	(0.039)	(0.101)
Higher education	0.594***	0.508***	0.688***	0.619***	0.423***
	(0.039)	(0.059)	(0.053)	(0.042)	(0.110)
Experience	0.0002	−0.0004	−0.0002	−0.002	0.017
	(0.005)	(0.007)	(0.006)	(0.005)	(0.015)
Experience squared	−0.00001	−0.0001	0.0001	0.00004	−0.0004
	(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0005)
Non-Russian	−0.027	−0.103*	0.025		
	(0.040)	(0.063)	(0.051)		
Female	−0.463***			−0.478***	−0.361***
	(0.027)			(0.029)	(0.081)
Constant	7.491***	7.591***	6.921***	7.501***	7.383***
	(0.041)	(0.058)	(0.057)	(0.044)	(0.116)
Observations	3,604	1,673	1,931	3,128	476
R^2	0.125	0.056	0.091	0.136	0.066
Adjusted R^2	0.124	0.053	0.089	0.135	0.056
Residual Std. Error	0.813	0.853	0.774	0.805	0.858
F Statistic	85.935***	19.738***	38.626***	98.701***	6.661***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 11: Results of Mincer Analysis, RLMS 2002

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.203***	0.140***	0.280***	0.215***	0.150*
	(0.033)	(0.047)	(0.046)	(0.036)	(0.082)
Higher education	0.581***	0.518***	0.652***	0.595***	0.504***
	(0.035)	(0.052)	(0.049)	(0.039)	(0.092)
Experience	0.008*	0.001	0.013**	0.006	0.019
	(0.004)	(0.007)	(0.006)	(0.005)	(0.013)
Experience squared	−0.0001	−0.0001	−0.0002	−0.0001	−0.0004
	(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0004)
Non-Russian	0.069*	0.066	0.062		
	(0.035)	(0.055)	(0.046)		
Female	−0.444***			−0.441***	−0.459***
	(0.025)			(0.026)	(0.068)
Constant	7.755***	7.863***	7.193***	7.753***	7.815***
	(0.038)	(0.053)	(0.052)	(0.041)	(0.097)
Observations	3,803	1,748	2,055	3,286	517
R^2	0.133	0.062	0.098	0.134	0.125
Adjusted R^2	0.131	0.059	0.096	0.133	0.116
Residual Std. Error	0.748	0.774	0.722	0.748	0.749
F Statistic	96.883***	22.835***	44.584***	101.827***	14.558***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 12: Results of Mincer Analysis, RLMS 2003

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.229***	0.136***	0.328***	0.224***	0.271***
	(0.033)	(0.046)	(0.046)	(0.035)	(0.083)
Higher education	0.604***	0.485***	0.717***	0.623***	0.483***
	(0.035)	(0.052)	(0.048)	(0.038)	(0.090)
Experience	0.008**	0.008	0.009*	0.009**	0.006
	(0.004)	(0.007)	(0.006)	(0.005)	(0.012)
Experience squared	−0.0002	−0.0004*	−0.0001	−0.0002	−0.0002
	(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0004)
Non-Russian	0.066*	0.049	0.075		
	(0.035)	(0.053)	(0.047)		
Female	−0.491***			−0.495***	−0.468***
	(0.024)			(0.026)	(0.066)
Constant	7.970***	8.086***	7.359***	7.963***	8.078***
	(0.038)	(0.054)	(0.052)	(0.041)	(0.099)
Observations	3,857	1,765	2,092	3,335	522
R^2	0.151	0.060	0.110	0.154	0.137
Adjusted R^2	0.150	0.057	0.108	0.153	0.129
Residual Std. Error	0.747	0.761	0.731	0.749	0.731
F Statistic	114.015***	22.345***	51.464***	121.088***	16.378***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 13: Results of Mincer Analysis, RLMS 2004

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.181***	0.161***	0.207***	0.181***	0.189**
	(0.031)	(0.044)	(0.044)	(0.034)	(0.080)
Higher education	0.554***	0.486***	0.617***	0.570***	0.467***
	(0.033)	(0.049)	(0.046)	(0.036)	(0.086)
Experience	0.0001	−0.006	0.005	0.001	−0.009
	(0.004)	(0.006)	(0.005)	(0.004)	(0.011)
Experience squared	0.00003	0.00002	0.00001	−0.00002	0.0004
	(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0003)
Non-Russian	0.039	0.037	0.036		
	(0.033)	(0.050)	(0.044)		
Female	−0.497***			−0.497***	−0.505***
	(0.023)			(0.025)	(0.063)
Constant	8.294***	8.380***	7.708***	8.284***	8.393***
	(0.036)	(0.050)	(0.049)	(0.039)	(0.089)
Observations	3,967	1,824	2,143	3,439	528
R^2	0.157	0.061	0.101	0.159	0.151
Adjusted R^2	0.156	0.058	0.099	0.158	0.143
Residual Std. Error	0.711	0.730	0.692	0.712	0.707
F Statistic	123.291***	23.549***	48.085***	129.807***	18.629***
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 14: Results of Mincer Analysis, RLMS 2005

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.163***	0.129***	0.212***	0.167***	0.154*
	(0.031)	(0.043)	(0.044)	(0.034)	(0.079)
Higher education	0.547***	0.430***	0.657***	0.567***	0.442***
	(0.033)	(0.048)	(0.046)	(0.036)	(0.085)
Experience	−0.003	−0.007	0.001	−0.002	−0.008
	(0.004)	(0.006)	(0.005)	(0.004)	(0.011)
Experience squared	0.0001	0.00002	0.0001	0.0001	0.0002
	(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0003)
Non-Russian	0.063*	0.016	0.109**		
	(0.033)	(0.049)	(0.044)		
Female	−0.503***			−0.517***	−0.427***
	(0.023)			(0.025)	(0.064)
Constant	8.532***	8.644***	7.906***	8.524***	8.633***
	(0.036)	(0.050)	(0.051)	(0.039)	(0.092)
Observations	3,913	1,801	2,112	3,367	546
R^2	0.162	0.053	0.120	0.169	0.124
Adjusted R^2	0.160	0.050	0.118	0.167	0.116
Residual Std. Error	0.704	0.723	0.684	0.700	0.733
F Statistic	125.554***	20.059***	57.218***	136.313***	15.263***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 15: Results of Mincer Analysis, RLMS 2006

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.161***	0.114***	0.227***	0.155***	0.198***
	(0.027)	(0.038)	(0.039)	(0.029)	(0.069)
Higher education	0.572***	0.436***	0.696***	0.580***	0.518***
	(0.029)	(0.043)	(0.041)	(0.032)	(0.075)
Experience	−0.003	0.002	−0.006	−0.002	−0.005
	(0.003)	(0.005)	(0.004)	(0.004)	(0.009)
Experience squared	0.00003	−0.0002	0.0002	0.00002	0.0001
	(0.0001)	(0.0002)	(0.0001)	(0.0001)	(0.0003)
Non-Russian	0.092***	0.066	0.117***		
	(0.029)	(0.044)	(0.039)		
Female	−0.456***			−0.463***	−0.411***
	(0.020)			(0.022)	(0.054)
Constant	8.733***	8.791***	8.200***	8.735***	8.819***
	(0.031)	(0.042)	(0.043)	(0.033)	(0.078)
Observations	4,804	2,172	2,632	4,179	625
R^2	0.163	0.059	0.133	0.164	0.151
Adjusted R^2	0.162	0.057	0.131	0.163	0.144
Residual Std. Error	0.681	0.694	0.667	0.684	0.659
F Statistic	156.012***	27.246***	80.635***	163.550***	22.059***
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 16: Results of Mincer Analysis, RLMS 2007

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.158***	0.155***	0.174***	0.179***	0.054
	(0.026)	(0.035)	(0.037)	(0.028)	(0.066)
Higher education	0.495***	0.378***	0.593***	0.530***	0.298***
	(0.028)	(0.039)	(0.039)	(0.030)	(0.072)
Experience	−0.001	0.002	−0.003	−0.003	0.011
	(0.003)	(0.005)	(0.004)	(0.003)	(0.009)
Experience squared	−0.00005	−0.0002*	0.0001	0.00000	−0.0004
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0003)
Non-Russian	0.045	−0.019	0.110***		
	(0.028)	(0.041)	(0.038)		
Female	−0.429***			−0.447***	−0.318***
	(0.019)			(0.020)	(0.053)
Constant	8.955***	9.000***	8.476***	8.953***	8.996***
	(0.029)	(0.040)	(0.040)	(0.031)	(0.076)
Observations	4,726	2,153	2,573	4,136	590
R^2	0.152	0.050	0.113	0.161	0.097
Adjusted R^2	0.150	0.048	0.111	0.160	0.089
Residual Std. Error	0.640	0.641	0.636	0.641	0.631
F Statistic	140.495***	22.629***	65.411***	158.888***	12.539***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 17: Results of Mincer Analysis, RLMS 2008

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.175***	0.151***	0.209***	0.189***	0.120*
	(0.027)	(0.037)	(0.040)	(0.030)	(0.069)
Higher education	0.567***	0.488***	0.640***	0.599***	0.412***
	(0.029)	(0.041)	(0.041)	(0.032)	(0.072)
Experience	−0.0002	−0.001	0.0001	−0.001	0.002
	(0.003)	(0.005)	(0.005)	(0.004)	(0.009)
Experience squared	−0.0001	−0.0002	−0.00000	−0.0001	−0.0002
	(0.0001)	(0.0002)	(0.0001)	(0.0001)	(0.0003)
Non-Russian	0.043	−0.031	0.116***		
	(0.028)	(0.040)	(0.039)		
Female	−0.453***			−0.476***	−0.322***
	(0.020)			(0.022)	(0.053)
Constant	9.176***	9.249***	8.650***	9.173***	9.235***
	(0.032)	(0.043)	(0.044)	(0.034)	(0.081)
Observations	4,827	2,170	2,657	4,140	687
R^2	0.162	0.079	0.114	0.172	0.107
Adjusted R^2	0.161	0.077	0.112	0.171	0.101
Residual Std. Error	0.683	0.680	0.683	0.681	0.689
F Statistic	155.203***	37.314***	68.048***	172.104***	16.395***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 18: Results of Mincer Analysis, RLMS 2009

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.143***	0.109***	0.181***	0.155***	0.075
	(0.027)	(0.037)	(0.040)	(0.029)	(0.071)
Higher education	0.517***	0.431***	0.587***	0.534***	0.406***
	(0.028)	(0.040)	(0.040)	(0.030)	(0.076)
Experience	0.012***	0.008	0.016***	0.011***	0.021**
	(0.003)	(0.005)	(0.004)	(0.003)	(0.010)
Experience squared	−0.0004***	−0.0003**	−0.0004***	−0.0003***	−0.001**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0003)
Non-Russian	0.054*	0.036	0.066		
	(0.030)	(0.044)	(0.041)		
Female	−0.436***			−0.439***	−0.409***
	(0.019)			(0.020)	(0.055)
Constant	9.174***	9.263***	8.659***	9.172***	9.234***
	(0.031)	(0.042)	(0.043)	(0.033)	(0.082)
Observations	4,803	2,146	2,657	4,267	536
R^2	0.159	0.069	0.112	0.161	0.147
Adjusted R^2	0.158	0.067	0.110	0.160	0.139
Residual Std. Error	0.650	0.640	0.657	0.654	0.621
F Statistic	151.376***	31.959***	66.940***	163.424***	18.259***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 19: Results of Mincer Analysis, RLMS 2010

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.124***	0.121***	0.133***	0.131***	0.094
	(0.021)	(0.030)	(0.031)	(0.023)	(0.062)
Higher education	0.492***	0.444***	0.535***	0.506***	0.398***
	(0.023)	(0.032)	(0.032)	(0.024)	(0.066)
Experience	0.007***	0.009**	0.004	0.005*	0.019**
	(0.002)	(0.004)	(0.003)	(0.003)	(0.008)
Experience squared	−0.0002***	−0.0004***	−0.0001	−0.0002***	−0.001**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Non-Russian	0.083***	0.072**	0.095***		
	(0.024)	(0.036)	(0.033)		
Female	−0.405***			−0.408***	−0.392***
	(0.015)			(0.016)	(0.049)
Constant	9.315***	9.333***	8.889***	9.318***	9.361***
	(0.023)	(0.032)	(0.033)	(0.025)	(0.067)
Observations	7,325	3,318	4,007	6,532	793
R^2	0.149	0.071	0.104	0.153	0.124
Adjusted R^2	0.149	0.069	0.103	0.152	0.119
Residual Std. Error	0.645	0.659	0.633	0.641	0.675
F Statistic	214.077***	50.335***	93.184***	234.981***	22.323***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 20: Results of Mincer Analysis, RLMS 2011

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.082***	0.102***	0.059*	0.097***	−0.011
	(0.020)	(0.027)	(0.031)	(0.022)	(0.059)
Higher education	0.462***	0.446***	0.465***	0.479***	0.350***
	(0.021)	(0.030)	(0.031)	(0.023)	(0.061)
Experience	0.005*	0.003	0.006*	0.004	0.007
	(0.002)	(0.004)	(0.003)	(0.003)	(0.008)
Experience squared	−0.0002***	−0.0003**	−0.0002**	−0.0002***	−0.0003
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Non-Russian	0.050**	0.047	0.054		
	(0.024)	(0.034)	(0.033)		
Female	−0.443***			−0.445***	−0.425***
	(0.015)			(0.016)	(0.046)
Constant	9.492***	9.512***	9.035***	9.483***	9.590***
	(0.022)	(0.029)	(0.032)	(0.023)	(0.065)
Observations	7,166	3,270	3,896	6,415	751
R^2	0.174	0.088	0.100	0.176	0.158
Adjusted R^2	0.173	0.087	0.099	0.175	0.152
Residual Std. Error	0.617	0.608	0.624	0.616	0.629
F Statistic	250.624***	63.004***	86.557***	272.876***	27.904***
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 21: Results of Mincer Analysis, RLMS 2012

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.064***	0.094***	0.031	0.059***	0.102*
	(0.021)	(0.027)	(0.031)	(0.022)	(0.057)
Higher education	0.440***	0.434***	0.433***	0.440***	0.441***
	(0.021)	(0.030)	(0.031)	(0.023)	(0.059)
Experience	0.008***	0.011***	0.006*	0.006**	0.021***
	(0.002)	(0.004)	(0.003)	(0.003)	(0.008)
Experience squared	−0.0003***	−0.0005***	−0.0002*	−0.0003***	−0.001***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Non-Russian	0.041*	0.042	0.038		
	(0.023)	(0.033)	(0.033)		
Female	−0.462***			−0.461***	−0.470***
	(0.015)			(0.016)	(0.045)
Constant	9.643***	9.637***	9.195***	9.655***	9.596***
	(0.022)	(0.029)	(0.033)	(0.024)	(0.062)
Observations	7,427	3,366	4,061	6,603	824
R^2	0.171	0.088	0.090	0.169	0.183
Adjusted R^2	0.170	0.086	0.089	0.169	0.178
Residual Std. Error	0.635	0.621	0.645	0.635	0.633
F Statistic	254.601***	64.701***	80.544***	269.058***	36.546***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 22: Results of Mincer Analysis, RLMS 2013

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.078***	0.076***	0.083***	0.083***	0.062
	(0.021)	(0.028)	(0.032)	(0.023)	(0.058)
Higher education	0.470***	0.424***	0.504***	0.480***	0.409***
	(0.022)	(0.030)	(0.032)	(0.024)	(0.061)
Experience	0.011***	0.010***	0.012***	0.008***	0.029***
	(0.002)	(0.004)	(0.003)	(0.003)	(0.008)
Experience squared	−0.0003***	−0.0005***	−0.0003***	−0.0003***	−0.001***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Non-Russian	−0.045**	−0.043	−0.049		
	(0.023)	(0.032)	(0.032)		
Female	−0.432***			−0.431***	−0.436***
	(0.015)			(0.016)	(0.045)
Constant	9.684***	9.724***	9.211***	9.693***	9.559***
	(0.023)	(0.031)	(0.033)	(0.025)	(0.063)
Observations	7,324	3,359	3,965	6,440	884
R^2	0.165	0.082	0.111	0.167	0.154
Adjusted R^2	0.164	0.081	0.110	0.166	0.149
Residual Std. Error	0.629	0.625	0.631	0.625	0.659
F Statistic	240.156***	59.946***	99.247***	258.110***	31.873***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 23: Results of Mincer Analysis, RLMS 2014

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.080***	0.089***	0.067**	0.088***	0.050
	(0.023)	(0.031)	(0.034)	(0.024)	(0.065)
Higher education	0.473***	0.440***	0.492***	0.495***	0.333***
	(0.024)	(0.033)	(0.034)	(0.025)	(0.067)
Experience	0.008***	0.011**	0.007**	0.005*	0.037***
	(0.003)	(0.004)	(0.004)	(0.003)	(0.009)
Experience squared	−0.0002***	−0.0004***	−0.0002	−0.0002*	−0.001***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0003)
Non-Russian	−0.018	−0.040	0.002		
	(0.025)	(0.037)	(0.034)		
Female	−0.409***			−0.416***	−0.363***
	(0.016)			(0.017)	(0.051)
Constant	9.780***	9.793***	9.359***	9.794***	9.632***
	(0.025)	(0.035)	(0.036)	(0.027)	(0.073)
Observations	6,147	2,794	3,353	5,449	698
R^2	0.160	0.081	0.117	0.168	0.128
Adjusted R^2	0.160	0.080	0.116	0.167	0.121
Residual Std. Error	0.616	0.627	0.606	0.611	0.652
F Statistic	195.451***	49.417***	88.665***	220.189***	20.278***
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 24: Results of Mincer Analysis, RLMS 2015

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.091***	0.117***	0.050	0.091***	0.093
	(0.023)	(0.029)	(0.036)	(0.024)	(0.063)
Higher education	0.443***	0.442***	0.425***	0.449***	0.401***
	(0.023)	(0.031)	(0.036)	(0.025)	(0.064)
Experience	0.010***	0.016***	0.007*	0.006**	0.036***
	(0.003)	(0.004)	(0.004)	(0.003)	(0.008)
Experience squared	−0.0003***	−0.001***	−0.0001	−0.0002**	−0.001***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Non-Russian	−0.039	−0.056*	−0.024		
	(0.024)	(0.033)	(0.034)		
Female	−0.422***			−0.426***	−0.391***
	(0.016)			(0.016)	(0.047)
Constant	9.818***	9.794***	9.426***	9.838***	9.627***
	(0.025)	(0.033)	(0.038)	(0.027)	(0.070)
Observations	6,230	2,844	3,386	5,515	715
R^2	0.163	0.093	0.093	0.165	0.167
Adjusted R^2	0.162	0.091	0.091	0.164	0.161
Residual Std. Error	0.599	0.587	0.607	0.597	0.613
F Statistic	202.247***	58.161***	69.116***	217.040***	28.468***

Note: *p<0.1; **p<0.05; ***p<0.01

Table 25: Results of Mincer Analysis, RLMS 2016

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.052**	0.064**	0.036	0.058**	0.023
	(0.024)	(0.030)	(0.038)	(0.026)	(0.063)
Higher education	0.403***	0.396***	0.403***	0.414***	0.336***
	(0.024)	(0.031)	(0.037)	(0.026)	(0.064)
Experience	0.011***	0.017***	0.007*	0.009***	0.032***
	(0.003)	(0.004)	(0.004)	(0.003)	(0.008)
Experience squared	−0.0003***	−0.001***	−0.0001	−0.0002***	−0.001***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Non-Russian	0.013	0.016	0.011		
	(0.025)	(0.035)	(0.036)		
Female	−0.406***			−0.406***	−0.404***
	(0.016)			(0.017)	(0.046)
Constant	9.872***	9.849***	9.489***	9.881***	9.800***
	(0.027)	(0.034)	(0.040)	(0.028)	(0.074)
Observations	6,296	2,905	3,391	5,611	685
R^2	0.146	0.083	0.080	0.145	0.167
Adjusted R^2	0.145	0.081	0.079	0.144	0.161
Residual Std. Error	0.619	0.592	0.641	0.621	0.598
F Statistic	179.466***	52.260***	58.799***	190.040***	27.237***
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 26: Results of Mincer Analysis, RLMS 2017

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.074***	0.083***	0.062	0.080***	0.040
	(0.024)	(0.029)	(0.040)	(0.026)	(0.061)
Higher education	0.404***	0.404***	0.398***	0.411***	0.354***
	(0.025)	(0.031)	(0.040)	(0.027)	(0.062)
Experience	0.013***	0.019***	0.009**	0.013***	0.020***
	(0.003)	(0.004)	(0.004)	(0.003)	(0.008)
Experience squared	−0.0004***	−0.001***	−0.0002**	−0.0004***	−0.001**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Non-Russian	0.061**	0.058*	0.063		
	(0.026)	(0.035)	(0.038)		
Female	−0.442***			−0.443***	−0.432***
	(0.016)			(0.017)	(0.044)
Constant	9.920***	9.890***	9.506***	9.919***	9.973***
	(0.027)	(0.034)	(0.043)	(0.029)	(0.072)
Observations	6,355	2,945	3,410	5,715	640
R^2	0.153	0.089	0.066	0.149	0.201
Adjusted R^2	0.152	0.087	0.065	0.148	0.195
Residual Std. Error	0.628	0.578	0.668	0.636	0.550
F Statistic	191.331***	57.371***	48.265***	199.302***	31.864***
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 27: Results of Mincer Analysis, RLMS 2018

	Total Sample	Males	Females	Russians	Non-Russians
	(1)	(2)	(3)	(4)	(5)
Vocational education	0.077***	0.070**	0.085**	0.082***	0.063
	(0.023)	(0.031)	(0.036)	(0.025)	(0.067)
Higher education	0.386***	0.370***	0.400***	0.394***	0.345***
	(0.024)	(0.032)	(0.036)	(0.025)	(0.069)
Experience	0.013***	0.015***	0.013***	0.012***	0.022***
	(0.003)	(0.004)	(0.004)	(0.003)	(0.008)
Experience squared	−0.0004***	−0.0005***	−0.0003***	−0.0003***	−0.001**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Non-Russian	0.004	−0.019	0.025		
	(0.025)	(0.035)	(0.035)		
Female	−0.393***			−0.398***	−0.354***
	(0.015)			(0.016)	(0.048)
Constant	9.993***	10.007***	9.582***	10.000***	9.930***
	(0.027)	(0.036)	(0.039)	(0.028)	(0.079)
Observations	6,120	2,806	3,314	5,468	652
R^2	0.144	0.073	0.077	0.147	0.126
Adjusted R^2	0.143	0.072	0.075	0.146	0.119
Residual Std. Error	0.593	0.581	0.602	0.591	0.610
F Statistic	171.170***	44.408***	55.095***	187.836***	18.631***

Note: *p<0.1; **p<0.05; ***p<0.01