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## OVERQUALIFICATION OF RUSSIAN EMPLOYEES: SCALE, DETERMINANTS, CONSEQUENCES

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**Abstract.** In this article the problem of inconsistency of employees' characteristics with the requirements of the labor market is considered. The research objective is to estimate the scale of overqualification mismatch of Russian employees, to find its determinants and influence on potential turnover and job satisfaction. The empirical basis of the work was microdata from the Comprehensive Living Conditions Survey conducted by Rosstat in 2018. Measurement of qualification mismatch is based on respondents' self-assessment. About half of Russian employees assess their qualifications as excessive. Regression analysis has shown that the most significant determinant of overqualification is the level of education. Work in the informal sector, poor working conditions, excessive education and work not in the specialty increase the probability that the employee will consider himself/herself overqualified. It has been proved that overqualification is a significant predictor of labor behavior. The probability of searching for a new, more suitable job is higher for those employees who assess their qualifications as excessive. Overqualification has a negative effect on job satisfaction, reducing the likelihood of feeling satisfied and increasing the risks of dissatisfaction.

**Keywords:** qualification mismatch • overqualification • potential turnover • job satisfaction

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Employers, government officials, and politicians actively discuss the problems of overeducated employees, massive work not in the specialty, the so-called skills mismatch, skill shortage and obsolescence. All of these are, in fact, manifestations of a gap (mismatch) between the characteristics of employees (their level of education, specialty, qualifications) and the requirements of the labor market. This problem is vast and diverse. In the scientific literature three types of mismatch are distinguished: 1) education mismatch – (non)compliance of the employee's education level to the requirements of a certain workplace; 2) work not in the specialty (horizontal / field of study mismatch); 3) qualification (skill) mismatch – (non)compliance of the employee's qualifications and skills to the work performed.

In the publications of the 1980s and 1990s, the mismatch in the labor market was analyzed mainly at the macrolevel as a gap between the aggregate demand and supply of labor, as

a problem of the (mis)match between the job openings and the candidates' qualifications. Since the early 2000s it has been actively researched on the microlevel as a mismatch between the characteristics of an employee and those required to perform specific work tasks. The scale, determinants and consequences of educational mismatch and work not in the received specialty are in the focus of research interest (see reviews of publications: [Erdogan, Bauer, 2020; McGuinness et al., 2018; Somers et al., 2019]). Publications by Russian researchers are dedicated to the analysis of these issues (see: [Varshavskaya, 2019; Gimpelson et al., 2010; Gimpelson et al., 2009; Kolosova et al., 2020]).

The problem of qualification mismatch entered the academic and expert agenda somewhat later – in the late 2000s. In many respects it was a consequence of low satisfaction of company CEOs with the skills of their employees and applicants. According to surveys, the lack of qualifications and skills of employees invariably ranked at the top of the list of obstacles to business development [Maltseva, 2019]. At the same time, the results of various international researches of qualifications appeared, especially the Programme for the International Assessment for Adult Competencies (PIAAC), which made it possible to assess the level of skill development in adults [Flisi et al., 2017; Pellizzari, Fichen, 2017; Perry et al., 2014]. On the other hand, it has been shown theoretically and empirically that experience level and skill development cannot be equated with formal education, so educational and qualification mismatch represent two different phenomena (Allen, van der Velden, 2001; Chevalier, 2003; Green et al., 2002).

The publications of the last 10–15 years analyze certain aspects of qualification mismatch, primarily its scale [Cedefop, 2015; Flisi et al., 2017; McGuinness et al., 2018; OECD, 2015], effects on wages [Mavromaras et al., 2013, McGuinness, Sloane, 2011; SanchezSanchez, McGuinness, 2015], as well as non-monetary effects, such as the impact on organizational behavior [Erdogan et al., 2000; Liu et al., 2015; Zhang et al., 2016]. Most works are dedicated to the analysis of overqualification mismatch, while lack of qualifications is given much less attention [McGuinness et al., 2018]<sup>11</sup>.

In the Russian literature, the issue of qualification mismatch remains on the fringes of research attention. The research objective is to estimate the scale of overqualification mismatch of Russian employees (based on their self-assessment), to define its determinants and influence on potential turnover and job satisfaction.

**Qualification mismatch: theoretical approaches and empirical results.** Qualification (mis)match is understood as the correlation between an employee's qualification and skills level and the requirements of his/her workplace. Two groups of methods are used to measure it. The first group includes objective methods which imply direct measurements of the qualification development level using some tools (for example, tests) as well as the availability of established qualification requirements in the profile of a particular profession. The gap is determined by comparing the actual and the required level of qualification development measured according to a single scale (methodology). The second group of measurement methods is subjective. They are based on the employees' self-assessment of the correspondence of their qualification level to the requirements which are necessary for the successful accomplishment of occupational tasks. The vast majority of researches measure qualification compliance based on the use of subjective assessments of respondents [Flisi et al., 2017; McGuinness et al., 2018]. This is due to the fact that the use of objective methods is much more laborious and costly, because for qualifications, unlike, for example, education, there are no direct measures (in the form of levels of education or number of years of study), and the range of skills that can be assessed is very limited. Researchers acknowledge that the use of subjective methods of assessing qualification mismatch carries the risk of biased results. Moreover, subjective qualification mismatch has been found to be a more

<sup>11</sup> A similar situation is observed in the analysis of educational mismatch: the majority of scientific publications are dedicated to problems of excessive education. At the same time, the focus of attention of employers and politicians is primarily on the issues related to the lack of qualifications and skills.

accurate predictor of labor behavior compared to assessments based on objective measures [Luksyte, Spitzmueller, 2011; McKeeRyan et al., 2009]<sup>2</sup>.

There are various theoretical approaches that explain labor market mismatch. Some focus on individual characteristics, primarily education and work experience (e.g., human capital theory); others focus on job characteristics and institutional conditions (e.g., job competition models). Majority of empirical studies are based on the job assignment theory, which assumes that mismatch in the labor market is a consequence of heterogeneity of both employees (by the level of formal education, qualifications, experience) and jobs [Sattinger, 1993]. The probability of overqualification has been found to be related to individual employee characteristics: sex [Liu et al., 2015; MoroEgido, 2020], age [Sutherland, 2012; Wald et al., 2016], education [Mavromaras et al., 2013; Peiro et al., 2010]. On the other hand, the likelihood of qualification mismatch depends on the characteristics of the job and the work performed [Madamba, De Jong, 1997; Saez et al., 2016].

Analysis of non-monetary effects of qualification mismatch shows that overqualified employees are more likely to search for a new job [Allen, van der Velden, 2001; Maynard, Parfyonova, 2013; McGuinness, Wooden, 2009; Wald, 2004]. This confirms the theory of matching, where job change is seen as an adaptation strategy aimed at achieving an optimal match between the characteristics of employees and the requirements of the workplace [Jovanovic, 1979].

The majority of empirical studies revealed a negative effect of overqualification on job satisfaction [Green, Zhu, 2010; Congregado et al., 2016]. Moreover, a number of studies estimate re-qualification as a more influential factor of labor satisfaction in comparison with educational and horizontal mismatch, which have either weaker or neutral influence [Allen, Velden, 2001; Badillo Amador, Vila, 2013; McGuinness, Sloane, 2011; Sánchez Sánchez, McGuinness, 2015].

Based on the reviewed literature and the results of previous studies, the following hypotheses were proposed:

**H1:** the likelihood of overqualification is higher when the employee has a higher level of education;

**H2:** work at "bad" jobs (in the informal sector, on a non-permanent contract, in unfavorable conditions) increases the likelihood of assessing one's qualification as excessive;

**H3:** evaluation of qualifications as excessive increases the probability of looking for a new job;

**H4:** evaluation of qualifications as excessive reduces job satisfaction and increases the risks of dissatisfaction.

**Measurement data and method.** The empirical basis of the work is the data of the Comprehensive Living Conditions Survey (CLCS), conducted by Rosstat (Federal State Statistics Service) within the framework of the program of federal statistical surveys. Since 2014, The CLCS has been held every two years in all regions of the Russian Federation and has covered 60,000 households. The results of the CLCS are representative of the Russian Federation as a whole, of urban and rural settlements, and of individual socio-demographic groups<sup>3</sup>. In the article (where it is not specifically mentioned), microdata from CLCS for 2018 were used (CLCS2018). For the purposes of our research, the sample was limited to working respondents. Its coverage was more than 50,000 people.

We use a subjective approach to assess qualification mismatch. The CLCS questionnaire contains the question "Do you think you have the skills or qualifications to do a more difficult job than the one you have now?" and the answer options "yes," "no," and "not sure"<sup>4</sup>. This

<sup>2</sup> Let us note that the UN Economic Commission for Europe includes qualification mismatch among the indicators for measuring the quality of employment and recommends using the method based on respondents' self-assessments [UNECE, 2015].

<sup>3</sup> Detailed information about the study can be found at [https://gks.ru/free\\_doc/new\\_site/GKS\\_KOU-ZH\\_2020/index.html](https://gks.ru/free_doc/new_site/GKS_KOU-ZH_2020/index.html) (accessed on 03.05.2021).

<sup>4</sup> Precisely this wording of the question and answer options is widely used in foreign studies (see, for example, the review of questions for subjective measurement of qualification mismatch in [Flisi et al., 2014]).

Table 1

## Share of respondents with overqualifications (in %)

Socio-demographic groups	Share
Sex	
men	53.2
women	51.6
Age	
20–29 years old	57.9
30–39 years old	57.3
40–49 years old	52.3
50–59 years old	45.9
60 years old and older	43.8
Education	
higher	61.8
secondary vocational	54.8
elementary vocational	46.6
secondary general	31.9
basic general and below	28.7

Source: Here and in the following tables, the author's calculations based on data from the CLCS2018.

wording of the question and answers allowed us to single out employees who consider themselves overqualified. These include those respondents who gave an affirmative answer. Before we proceed to the analysis of the data, let us note two fundamental points that are especially important from the point of view of interpreting the results. First, the respondents' answers reflect an individual's subjective assessment of the compliance of their qualifications and skills to the requirements of a particular job. Second, the wording of the question in the CLCS questionnaire does not allow us to identify employees who lack qualifications and, accordingly, those who answered "no" may include underqualified employees.

**The scale and determinants of overqualification.** According to the CLCS, about 58% of employees were overqualified in 2011 and 2014, and in 2016–54%, in 2018–52%. Thus, the share of overqualified employees remains fairly stable throughout the 2010s, although there is a slight downward trend. The scale of qualification excessiveness is differentiated in various socio-demographic groups (Table 1).

Men are somewhat more likely than women to report overqualification (53.2% and 51.6%, respectively). Its prevalence decreases with age, or more precisely, after reaching the age of 40. The gap between the extreme age groups (20–29 years old and 60 and older) is 14 p.p. The prevalence of overqualification steadily increases with the educational level of the respondents. Moreover, the most significant differentiation in evaluations is observed among employees with different levels of education. Thus, 61.8% of those employed with higher education said that they were overqualified, while among those employed with a general education, twice as little stated that. Managers (58.5%) and employees engaged in preparation of information and documents (57.7%) evaluated their qualification as excessive most often. Somewhat less frequently such evaluations of their qualifications were given by those employed in working positions: skilled industrial labor (49.5%), unskilled labor (49.3%), and operators, equipment operators, and engine drivers (44.7%). Thus, employees with a higher level of education and engaged in more skilled work more often perceive themselves as overqualified. However, overqualification is not limited to these groups of employees.

Table 2

**Determinants of overqualification (Binary logit regression estimates)**

Characteristics	Model 1	Model 2
Male (b – female)	0.134***	0.202***
Age	-0.017***	-0.015***
Education (b – basic general and below)		
higher	1.878***	
secondary vocational	1.444***	
elementary vocational	1.085***	
secondary general	0.207**	
Professional group (b - unskilled workers)		
managers		1.242***
high-skilled professionals		1.095***
associate professionals		0.649***
employees engaged in preparation of information services and sales workers		0.853***
skilled agricultural workers		0.847***
craft, building and machinery workers		0.222*
operators, equipment operators, engine drivers		0.163***
Employment sector (b – formal)	0.099***	0.048*
Working conditions (b – good)		
poor	0.237***	0.309***
satisfactory	0.163***	0.192***
Educational mismatch (b – match)		
overeducation	0.263***	0.859***
undereducation	0.074	-0.582***
Work not in the specialty (b – work in the specialty)	0.532***	0.337***
Constant	-1.033***	-0.361***
R <sup>2</sup>	0.097	0.087
Number of observations ( <i>people</i> )	50858	50922

Note. Type of settlement, region, type of labor contract (permanent/not) are monitored. \**p* < 0.1; \*\**p* < 0.05; \*\*\**p* < 0.01; b – base group.

In order to define the determinants of overqualification, a binary logit regression was assessed (Table 2). The dependent variable is the presence of overqualification (the base is its absence)<sup>5</sup>. Individual characteristics of employees (sex, age, type of settlement, education level), characteristics of employment (professional duties group, sector, type of labor contract, evaluation of working conditions), as well as educational compliance and work in the specialty were used as regressors.

Men are more likely to rate their qualifications as excessive than women. The likelihood of overqualification decreases with age. However, the influence of sex and age factors is small. The most “influential” variable is the level of education. The likelihood of overqualification increases with the educational level of employees. Moreover, the chances of re-qualification sharply rise for respondents with any level of vocational education, especially higher education. Employment in the informal sector and evaluation of working conditions as poor or satisfactory increase the risk of perception of qualification as excessive. Having excessive education and work not in the specialty also increase the likelihood that the employee will value his/her qualifications as excessive.

<sup>5</sup> Those who could not answer accounted for an insignificant 1.8% and were excluded from the analysis.

The inclusion of the “professional duties group” variable insignificantly affects the value of the coefficients, which indicates the stability of the obtained results (model 2)<sup>6</sup>. The groups with the highest risks of overqualification are managers and professionals, as well as office staff and pink collars. They are minimal among skilled employees in agriculture and skilled industrial workers. Thus, the prevalence of overqualification is determined both by the high level of education (in the case of managers and professionals) and by the relative simplicity of the work functions performed (in the case of office staff and pink collars).

In general, we can say that the main determinant of re-qualification is the level of education. Other things being equal, the respondents with occupational education, especially higher education, have the highest probability of evaluating their qualification as excessive. These risks increase under the influence of such factors as poor working conditions, work in the informal sector, excessive education, and work not in the specialty. The obtained results are consistent with the conclusions of foreign studies, which show that education and job characteristics are most closely connected with the employee’s evaluation of his/her qualification as excessive [Green, McIntosh, 2007; Saez et al., 2016].

**Effect of overqualification on potential turnover and job satisfaction.** 16% of overqualified employees responded affirmatively to the question about looking for a new job. Among respondents with qualification conformity there were twice as little (8,8%).

The results of the regression analysis are given in Table 3. Dependent variable – potential turnover (base – no potential turnover, i.e. the respondent gave a negative answer to the question about searching for a new suitable job).

Table 3

**Determinants of potential turnover (binary logit regression estimates)**

Characteristics	Model 1	Model 2
Male (b – female)	0.063*	0.002
Age	-0.047***	-0.047***
Education (b – basic general and below)		
higher	-0.235***	-0.389***
secondary vocational	-0.072	-0.254***
elementary vocational	-0.061	-0.014
secondary general	0.055	0.098
Employment sector (b – formal)	0.676***	0.532***
Working conditions (b – good)		
poor	0.341***	0.294***
satisfactory	0.151***	0.159***
Type of employment contract (b – permanent)	0.744***	0.755***
Overqualification (b – none)		0.649***
Educational mismatch (b – match)		
overeducation		0.363***
undereducation		-0.303***
Work not in the specialty (b – work in the specialty)		0.683***
Constant	-0.233**	-0.837***
R <sup>2</sup>	0.121	0.174
Number of observations ( <i>people</i> )	52 944	50 740

Note. Type of settlement, marital status, and region are monitored. \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$ ; b – base group.

<sup>6</sup> Inclusion of the “professional duties group” variable requires exclusion of the “education” variable, because they are highly correlated with each other (correlation coefficient 0.67).

Table 4

**Determinants of different aspects of job satisfaction**  
(Multinomial logit-regression estimates)

Characteristics	Satisfaction with job duties		Professional satisfaction		Psychic income	
	completely satisfied	not satisfied at all	completely satisfied	not satisfied at all	completely satisfied	not satisfied at all
Male (b – female)	0,202***	-0,206**	0,146***	-0,114*	0,093***	-0,187***
Age	0,011***	-0,002	0,012***	0,003*	0,013***	0,001
Education (b – basic general and below)						
higher	0,862***	-0,850***	0,684***	-0,819***	0,545***	-0,546***
secondary vocational	0,666***	-0,752***	0,397***	-0,660***	0,392***	-0,565***
elementary vocational	0,482***	-0,378**	0,069	-0,357***	0,181**	-0,321**
secondary general	0,144**	-0,102	0,027	0,025	-0,019	0,017
Employment sector (b – formal)	-0,058*	0,097	-0,158***	0,142**	-0,221***	0,062
Working conditions (b - good)						
poor	-0,994***	0,407***	-0,428***	0,043	-0,484***	0,395***
satisfactory	-0,597***	0,097	-0,328***	-0,196	-0,353***	-0,018
Type of employment contract (b – permanent)	-0,196***	0,289***	-0,234***	0,339***	-0,173***	0,291***
Overqualification (b – none)	-0,283***	0,246***	-0,396***	0,396***	-0,298***	0,298***
Educational mismatch (b – match)						
overeducation	-0,305***	0,254**	-0,432***	0,521***	-0,330***	0,326***
undereducation	0,349***	-0,625***	0,264***	-0,571***	0,276***	-0,536***
Work not in the specialty (b – work in the specialty)	-0,457***	0,612***	-0,746***	0,761***	-0,661***	0,635***
Constant	0,873***	-2,235***	0,765***	-1,867***	1,013***	-1,869***
R <sup>2</sup>	0,096		0,152		0,110	
Number of observations (people)	50811		50511		50491	

Note. Type of settlement, marital status, and region are monitored. \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01; b – base group.

The results show that an employee’s evaluation of his/her qualifications as excessive almost doubles the respondent’s likelihood of searching for a new job. A work not in the specialty is similarly powerful, while having excessive education is almost twice as weak. On the other hand, an insufficient level of education reduces the probability of potential turnover.

Note also that the probability of searching for a new job decreases with age. The potential turnover is significantly lower among employees with higher and secondary vocational education. Work in the informal sector, non-permanent employment contract, the evaluation of working conditions as poor and satisfactory increase the risks of potential turnover.

In order to determine the effect of overqualification on job satisfaction, the answers to the question “Specify the degree of satisfaction with your main job on such aspects as 1) job duties you have; 2) professional satisfaction (being able to apply your ideas at work, possibilities

for professional growth); 3) psychic income (feeling that you are doing useful work)" were used. Respondents could choose one of the following answers: completely satisfied, not completely satisfied, not satisfied at all. A multinomial logit regression was estimated, where the dependent variable is the level of satisfaction with one or another aspect of work (base – not completely satisfied) (Table 4).

The presence of overqualification negatively affects all aspects of job satisfaction. Respondents who assessed their skill level as excessive were 25–30% more likely to be completely dissatisfied with their job duties and not to get psychic income from their work. Their chances of being occupationally dissatisfied increase even more – by 40–50%. On the other hand, those who are overqualified are less likely to be completely satisfied with the mentioned aspects of work. It should be noted that excessive education and work not in the specialty have a similar effect on job satisfaction. Over-education and work not in the specialty increase the risks of dissatisfaction and decrease the probability of feeling satisfied.

In general, the negative non-monetary effects of overqualification are an attribute of a situation forced upon employees who cannot find more suitable job. However, it is possible that overqualified employees have monetary compensation, receiving a "bonus" to their wages compared to their colleagues whose skill level is not excessive. Unfortunately, the CLCS data do not contain information on wages and do not allow us to verify this assumption.

**Conclusions.** About half of Russian employees believe they have the skills and qualifications to perform more complex work than their current job. In other words, they evaluate their qualification as excessive. The scale of overqualification in Russia corresponds to the indicators of post-socialist countries (Hungary, Poland, Slovakia, Slovenia, Croatia), also measured by subjective method [McGuinness et al., 2018].

The most significant determinant of overqualification is the level of education. More educated employees are more likely to believe that they have the skills and experience to perform more complex work. This conclusion is consistent with the fact that the maximum chances to evaluate themselves as overqualified are demonstrated by managers and professionals. They are also high for office staff and pink collars. Work in the informal sector, poor working conditions, as well as the presence of other types of mismatch (excessive education and work not in the specialty) increase the probability to consider oneself overqualified. Thus, overqualification is the result of a mismatch between the labor supply from highly educated employees and the demand for labor from "bad" jobs (with unsatisfactory working conditions, unstable labor relations, simple functional responsibilities).

The results of foreign researchers that overqualification is a significant predictor of labor behavior were confirmed. It has been established that probability of searching for a new, more suitable job is higher for those employees who evaluate their qualifications as excessive. Overqualification has a negative effect on job satisfaction, reducing the likelihood of feeling satisfied and increasing the risks of dissatisfaction.

When interpreting the data presented, it should be borne in mind that they are based on respondents' self-assessments. In this case, in fact, we are talking about the so-called "perceived overqualification", which in the first place reflects an individual's subjective perception of the level of use of their knowledge, skills, experience, their relevance in a particular workplace. It is necessary to agree with the opinion of foreign researchers that overqualification understood and measured in this way is not only an economic, but also a social and psychological phenomenon and, accordingly, requires an interdisciplinary research approach [Erdogan et al., 2020; Harari et al., 2017].

This research is actually the first attempt to characterize overqualification mismatch in the circumstances of the Russian labor market. The article leaves out questions that require further study. How do objective and subjective assessments of qualification mismatch correlate? What is the effect of overqualification on employees' performance, their proactive, innovative and other types of organizational behavior? Are the negative non-monetary effects of overqualification compensated in monetary terms, i.e. is there a "bonus" for re-qualification? What is



the relationship between overqualification and individual psychological characteristics of employees? The search for answers to these questions determines possible directions for further research. At the same time, a comprehensive study of qualification mismatch is not only of theoretical, but also of undoubted practical importance, because it creates opportunities to reduce gaps between employees' skills and the tasks they perform.

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