RESEARCH PAPER

Part-time and temporary workers in Russia: winners or losers?

Tatiana Karabchuk

Abstract This paper examines wage differentials between permanent/non-permanent and full-time/part-time employees. The analysis is based on the representative Household Survey of Welfare dataset, collected by Rosstat and the World Bank in 2003. The results show that non-permanent workers suffer a loss in wages while part-timers earn more per hour than full-timers, but the wage gap diminishes substantially when controlled for observed and non-observed characteristics. It seems that the theory of segmented labor markets is quite appropriate for explaining these differences in the Russian labor market.

Teilzeitbeschäftigte und befristet Beschäftigte in Russland: Gewinner oder Verlierer?

Zusammenfassung In diesem Beitrag untersuchen wir die Lohnunterschiede zwischen unbefristet und befristet Beschäftigten und zwischen Vollzeit- und Teilzeitbeschäftigten in Russland. Die Analyse basiert auf dem Mikrodatensatz des Household Survey of Welfare, der im Jahr 2003 von Rosstat und der Weltbank erhoben wurde. Unsere Ergebnisse zeigen, dass die befristet Beschäftigten einen niedrigeren Stundenlohn, die Teilzeitbeschäftigten einen höheren Stundenlohn als Vollzeitbeschäftigte bekommen. Jedoch gehen diese Lohndifferenzen nach der Berücksichtigung der beobachteten und nicht beobachteten Merkmale wesentlich zurück. Die Theorie der Segmentierung der Arbeitsmärkte ist offensichtlich dazu geeignet, die Lohnunterschiede auf dem russischen Arbeitsmarkt zu erklären.

Keywords Standard employment · Non-standard employment · Wage differences · Temporary work · Part-time employment · Permanent employees · Full-timers · Russia

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1 Introduction

During the last 30 years, the percentage of temporary and part-time employment has grown substantially in many European countries (OECD Employment Outlook 2002). For example, the level of temporary employment for OECD countries for 2003 is about 13–14%. Russia has the same tendency of extremely fast growing numbers in these atypical forms of employment.

Until the 1990s, temporary and part-time employment was highly restricted by the state and unpopular in the Russian labor market. Firstly, the partial liberalization of labor legislation allowed the use of different types of contract by widening the list of reasons why an employer could hire a temp or part-timer. Secondly, the new Labour Code enacted in 2002 (which further increased the list of cases allowing the hiring of atypical workers) encouraged the growth of temporary employment (Labour Code 2003). By the end of 2003 about seven million Russian employees were hired under temporary contracts and about three million workers were part-timers.[1] Nevertheless Russia had about 55 million people (about 85% of all employed) working on a full-time basis with contracts unlimited in time. So we could say that

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[1]Figures are taken from Rosstat publications on labour statistics, www.gks.ru.

Fig. 1 Dynamics of temporary
and part-time employment in
Russia, 1992–2003 (% of total
employment, Rosstat
publications on labor statistics)
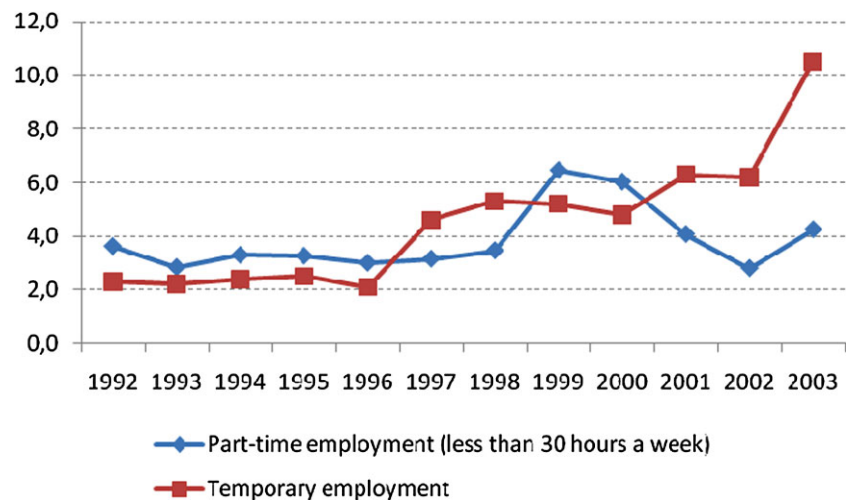
the typical working arrangements[2] were still predominant in this country (Fig. 1).

Is it good or bad for the economy to have increasing numbers of atypical employees? There is a longstanding dispute in the literature on this issue (Tucker 2002). At least two main frameworks could be mentioned here: the flexicurity[3] approach and the discussion of "good" and "bad" jobs. On the one hand, a high proportion of non-standard workers is an indicator for labor market flexibility, which allows enterprises to adapt quickly to different market changes and economic shocks. On the other hand, it also implies high social risks, uncertainty, wage shortages and loss of employees' human capital. Usually atypical employment is referred to as "bad" or odd while permanent and full-time jobs are considered to be "good" as they are associated with good wages, high career opportunities, social security and stability for the future. So the main task for social policy is the optimal balance between flexibility and security on the labor market and creation of "good" jobs at the same time.

That is why the issue of payment for typical and atypical jobs is extremely important. Unfortunately there are almost no studies on this issue in Russian. Does this transition country, which faced a dramatic reform period (since the early 1990s) with serious economic shocks differ from developed countries? Are the mechanisms of wage formation

the same or different? The vast majority of existing publications on western countries claim that temporary workers and part-timers usually receive lower wages than do typical employees. Although there are some papers which address the peculiarities and scope of non-standard employment in Russia (Gimpelson and Kapelyushnikov 2006, 2007), they do not discuss wages. So it is not clear at all whether non-standard workers win or lose in terms of wages in Russia. Moreover if their wages do really differ, then how large is the gap?

The paper is aimed at revealing the difference in payments between typical and atypical workers in Russia and to show how large this wage gap is. The contribution of the paper is that it addresses the lack of information on Russia and enriches the literature on typical and atypical employment issues. Moreover, it contributes to the discussion on the methodology of estimating the wage gap between temporary/permanent and part-time/full-time employees as the author tries to assess the pure wage gap while taking into account observed and unobserved characteristics. The focus is put on two major types of non-standard employment that are more widespread in Russia: temporary employment and part-time employment. The paper consists of five parts: theoretical considerations, discussion of existing empirical results, data and methodology, results and conclusions.

2 Theoretical considerations

The literature review provides at least three main theories which could explain the differences in payments between standard and non-standard workers. The theory of segmented labor markets (Doeringer and Piore 1971) implies that if non-standard jobs are occupied by workers with weaker positions and unfavorable personal characteristics, then their wages should be lower than those of persons with standard jobs. Furthermore the insider-outsider theory

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[2]Typical (or standard) employment means that employees are dependant workers on permanent contracts and working full-time. If a person works part-time or is hired for a determined period of time, then he/she is an atypical (or non-standard) worker. Part-time employment, fixed-term contracts, self-employment, casual work and daily workers comprise atypical (or non-standard) employment. Part-time means work for less than 30 hours per week. Temporary employment is a fixed-term job by formal or informal contract. Casual work is a situation when a person has from time to time working activity without any other job.

[3]See for more information Tucker (2002), the discussion on flexibility in labour relations and security of employees.

says that strict labor legislation with high firing and hiring costs leads to the strong bargaining power of insiders, which pushes the wages of permanent workers upward (Lindbeck and Snower 1988). Temporary employees in this case suffer a loss. If hiring and firing costs for full-timers and part-timers are the same, then employers would benefit from taking only full-time workers or they hire part-time employees for lower wages. As a result, standard workers enjoy a wage premium compared to the earnings of non-standard workers with similar characteristics.

Russia has very rigid labor legislation; the Organization for Economic Cooperation and Development (OECD) index of employment protection legislation marks the country as one of the most regulated (OECD Employment Outlook 2000). Even though law enforcement is not very strong (at least concerning small businesses), employees are well protected. This means that insiders have strong positions, and it is very difficult for newcomers and the unemployed to enter the labor market. The bargaining power of insiders is rather strong, but the negotiation process usually takes place at the individual level because trade unions are weak in Russia.

More importantly, there is almost no difference in the regulation of temporary (part-time) and permanent (full-time) employment in terms of labor costs. Both types of employee are rather well protected concerning firings and social security. Russian labor legislation does not stimulate wage premiums for atypical workers. For example, employers are interested in temporary employment only because there is no severance pay when a contract ends, but employers are not motivated to raise the wages of temporary workers because they still are highly protected (the same taxes on wages, the same firing costs in case of lay-offs, the same costs for sick leaves or maternity leaves, etc.).

The negative effect of non-standard employment is also predicted by human capital theory. Employers are not interested in investing in temporary staff, so even permanent employees with the same tenure earn more since they are considered to hold higher potential for firms. Part-timers spend less time working and learning, so they accumulate less knowledge and specific human capital than do full-timers. These differences in accumulated human capital affect wages. It is worth mentioning that tenure, the standard indicator for measuring specific human capital, does not grasp these differences. A full-time permanent employee working for the same period of time as a temporary employee or a part-time employee will have a larger stock of human capital.

The theory of compensation differences tells yet another story. It says that all the disadvantages of precarious work should be compensated in terms of wages (Rosen 1986). Temporary employees bear greater risks of unemployment and uncertainty, so they could claim higher payments as compensation for less job security (de Graaf-Zijl 2005).

Temporary employment could also be used as a probationary period for screening and choosing the best applicants to take on as permanent staff. In this case, lower payments in temporary positions could be compensated later when an employee is given a permanent job. Research has shown that, in European countries, temporary employment usually serves as a step toward permanent employment rather than a trap into prolonged temporary work (Engellandt and Riphahn 2005; Booth et al. 2002). Unfortunately we cannot test such assumptions on Russian data as we do not have longitudinal panel datasets with detailed work histories.

This theory of compensation differences does not work for Russia, because the country has its own way of adapting to market shocks, not through the growth of unemployment but by the cutting of wages. Both employers and employees are more ready to cut wages or accept wage cuts than to fire employees or to quit. So if employees are very tolerant toward even wage cuts, then they will also not demand extra compensation for the bad conditions of temporary contracts, another means for employers to save costs.

The theory of effective hours predicts a wage premium for part-timers. They work fewer hours per week than do full-timers, but they are more effective since their productivity per hour is greater. As a result, they should receive higher payments for their extra productivity. This theory could be true for Russia because wages are usually negotiated on an individual level, and in the case of limited supply, wages could increase. In addition, Russian part-time work is predominant in the public sector (teachers, doctors, social workers), where shortened working hours are paid as a full day because of the specificity and difficulty of jobs.

A brief discussion of theoretical approaches for explaining differences in the payments of typical and atypical workers was given. Next I will describe the empirical results in existed research. Which theory do the results support?

2.1 Empirical studies

Early research on women engaged in part-time employment demonstrated that the hourly wage rates of part-time employees are considerably lower than those of full-time employees (Ermisch and Wright 1993; Simpson 1986). However, later studies argue that part-timers do not suffer from either wage losses or benefits compared to full-timers.

Studies on the Australian labor market where the proportion of part-timers is very high demonstrate that the hourly wage is higher for the part-timers (Booth and Wood 2006). This is true both for men and women. For those part-time employees who at the same time are casually employed, the size of the benefit is even greater. The authors give at least two explanations for this fact. According to the first explanation, part-time employees have better hourly payments due to the Australian tax system, which punishes the second and

the third workers in the family by taxing more heavily. In order to attract such workers, the employers have to pay more. The second explanation stems from the theory of effective hours: despite part-timers working less, their productivity per hour is higher.

Hirsch (2004) analyzed the differences in hourly wages between full-time and part-time workers in the USA on the basis of panel data from the 'Current Population Survey.' Crude assessments revealed a large observed gap, which was higher for men than for women and grew along with tenure. Controlling for individual characteristics diminished this wage gap. However, older part-time employees still earn less because longer tenure also enhances the difference in human capital stocks acquired by part-time and full-time workers. Hirsch explained the differences in wages between standard and non-standard employees with similar individual differences in qualifications and skills. Here the dual labor market theory appears true: part-timers earn less money than full-timers do due to the lack of human and specific capital they can acquire for the same period of time but different number of working hours.

Manning and Petrongolo (2006) have come to the same conclusions while analyzing the gap in payments between women engaged in part-time or full-time work in Britain. Part-time employed women on average earn 25% less than full-time employed women. Moreover, this gap increased greatly during the last 30 years. A significant part of the gap could be explained by individual characteristics. When authors account for demographic characteristics, the disparity halves, and when they take into consideration the differences in occupational composition of these groups, the wage gap disappears. The paper concludes that the main reason for the observed difference in earnings is the professional segmentation.

Part-time employees are typically females and consequently the majority of empirical research papers are devoted to women. However, an analysis of men's employment provides the same results. According to recent studies, the observed average wage gap between part-time and full-time employees is 16% in Spain, 24% in Belgium, 28% in Denmark and Italy, 67% in Great Britain and 149% in Ireland (O'Dorchai et al. 2007). This gap began to shrink as soon as researchers control for individual and workplace characteristics (such as occupation, industry, enterprise size and trade union coverage).

The empirical literature on wages of permanent and temporary workers is limited. However, all existing papers argue that temporary employees usually earn less than permanent workers (Segal and Sullivan 1998; Booth et al. 2002; Hagen 2002; Addison and Surfield 2005). For instance, the same methodology was applied for calculating the differences between part-time/full-time wages and temporary/permanent wages in the Netherlands, and the results identified benefits for part-timers and losses for temps (de Graaf-Zijl 2005).

Researchers from the Tinbergen Institute found that, in Germany, temporary workers earn one third less than permanent workers (Gustafsson et al. 2001). Smaller wage differences, but still significant ones, were described in the UK, Netherlands and Sweden. Yet the authors did not take into account a possible self-selection effect, which could have led to the biased estimations. These wage losses for temporary workers could support the first two mentioned theories: segmented labor market theory and human capital theory.

Hagen (2002) assessed the wage gap between temporary/permanent employees as 6–10%, taking into account only observed workers' characteristics, and he received the gap of 23%. while controlling for unobserved characteristics. Addison and Surfield (2005) argued that temporary workers suffer from a 7–12% loss in wages, which is determined by observed differences between workers. When they took unobserved characteristics into account, the losses changed into wage benefits for temporary employees, thereby compensating for the lack of job security.

To sum up the theoretical and empirical literature review, both negative and positive effects of non-standard employment were shown. Reality is more complex than pure theory, and this is why empirical research is needed. Which theoretical approaches are most consistent with the Russian case? Do Russian non-standard workers lose or win in wages as compared to standard workers?

We could easily compare the observed average wages of standard and non-standard employees, but it is not enough to assert that these differences are due to labor market status. Firstly, the composition of the standard and non-standard workforces might differ substantially in terms of education, occupation, work experience, residence and many other important aspects. Secondly, there is nonrandom selection into these types of employment, depending on observed and unobserved characteristics of employees and employers. The choice of employment contract and of the corresponding wage could be made simultaneously. So in order to speak about wage differences, we should estimate the alternative wage for each non-standard employee, which he or she would have in the case of standard employment. We also should keep in mind that the causality between wages and types of work is not so simple. A situation of endogeneity could arise when the type of contract and the level of wages are determined at the same time. Using available data, I now turn to these issues.

3 Data and methodology

This research is based on micro-level data, NOBUS, a household survey representative for Russia, which was conducted by the World Bank and Rosstat in the Spring of 2003.

Table 1 Levels of temporary and part-time employment according to NOBUS and LFS data

	NOBUS data, 2003			LFS data, 2003 (weighted)		
	Total	Among men	Among women	Total	Among men	Among women
Number of part-time workers in the sample	2271	636	1635	3,548,762	1,167,630	2,381,132
Share of part-time employment (%)	4.5	2.6	6.3	5.3	3.5	7.3
Number of temporary workers in the sample	4999	2742	2257	7,331,734	4,227,151	3,104,583
Share of temporary employment (%)	10.0	11.4	8.7	11.0	12.5	9.5

Unfortunately, the well-known Russian longitudinal Monitoring Survey (RLMS) data did not allow the identification of temporary workers because there is no question about type of job contract. The most reliable and longest-running Russian data on labor market issues—the Labour Force Survey (produced by Rosstat)—are not appropriate either, as they do not contain information on wages.

I restricted the NOBUS sample to the age range of 15 to 65 years old and took only those who were dependant workers. I excluded the self-employed and those in the army, because information on the incomes of these two groups was not collected by NOBUS.

It is very important to classify standard and non-standard workers in the dataset correctly. Firstly I identify dependant workers (according to the International Labour Organization (ILO) definition). Then I divide them into those who usually work less than 30 hours per week and those who usually work 30 hours or more per week, defining the former as part-timers and the latter as full-time employees. This consists of the number of hours that respondents declared they usually worked per week (not contractual working hours). In order to get the working time per month, the answers are multiplied by four, assuming that a month consists of four weeks.

Based on the answers of respondents about their type of employment, I defined permanent workers as those who declare that they were hired on a contract unlimited in duration. Temporary employees are those who report that they were hired on fixed-term contracts, contracts for particular tasks or work based on oral agreements.

Table 1 shows the number and the level of part-time and temporary employment according to Labour Force Survey (LFS) and NOBUS data. Both datasets draw a very similar picture: approximately 10–11% of all employed have temporary jobs, and around 5% of all employed work part-time.

In answering the question about wages, the respondents have to point out their net wages. It should be underlined that I include the wage from the primary place of work only (which was identified by a respondent), even if a person has two or three jobs. To sum up, the final sample consists of 46,000 thousand respondents who declare their earnings for the last month in the survey. All non-standard jobs vary greatly in working hours, so I adjust wage data based on differences in working time. I have taken the natural logarithm of hourly wage rates into the regression models.

It is worth emphasizing that I compare the real observed wages of non-standard workers with the real observed wages of standard workers who have similar observed characteristics. I could not have the exact estimations here, as one person could not be in standard and non-standard employment in the primary job simultaneously, and I could not control for all characteristics when constructing such alternatives. We also should keep in mind that very often the alternative earnings for a non-standard worker is not the higher wage in standard employment but rather unemployment with only unemployment benefits or without any income at all. The unemployment rate for 2003 was 8.2%, which amounted to about six million persons. The recent fear of unemployment (Gimpelson and Monusova 2010) has not disappeared yet; many Russians prefer to have any job than to be unemployed. This could result in a low reserve wage and a deeper wage gap between "good" and "bad" jobs.

There is one more restriction here—it is not possible to account for differences in job security between standard and non-standard workers, and I analyze only differences in wages between them. The logic of the analysis is the following: I assess the differences in wages of full-time/part-time and permanent/temporary employees, moving step by step from simple to more elaborated econometric estimations (from means analysis to OLS regression, OLS plus Heckman correction and Propensity Score Matching), aiming to get a consistent estimate.

The wage equation for the OLS regression is the following:

$$\ln(w_i) = a + bT_i + cP_i + \sum_j \beta_j X_{ji} + \varepsilon_i. \qquad (1)$$

a, b, c, β_j—coefficients; $\ln(wage_i)$—natural logarithm of hourly wage; T_i, P_i—dummy for temporary or part-time employment, respectively (1—temporary, 0—permanent or 1—part-time, 0—full-time); X_j—the list of personal and workplace characteristics explaining the wage rate (gender, age, educational level, marital status, number of children, occupation, industry, ownership, type of settlement, regional dummies); ε—unexplained residual.

β-Coefficients show the corresponding return for personal and workplace characteristics. Coefficients equal the average wage gap of the individuals with similar characteristics but working by different type of contract (temporary/permanent) or regime (part-time/full-time), respectively (Halvorsen and Palmquist 1980).[4] We assume that unexplained residual $[\mathcal{E}_i]$ follows a normal distribution $[\mathcal{E}_i \sim NID[0, \sigma^2]]$.

After the OLS regression I estimate the regression with Heckman correction (see Tables 5 and 6). The main regression has the same list of independent variables. The selection equation contains the following list of variables:

- gender
- five age groups
- marital status
- four dummies for educational level
- *number of children of 0–6 years old*
- *owning a flat/house*

I assume that having small children and owning a flat could affect an individual's decision on labor market participation, but do not affect wages. So these two variables were taken as instruments for Heckman correction.

Finally I turn to the last model of estimating the wage gap—Propensity Score Matching. The method and its practical use were discussed in detail by Caliendo and Kopeinig (2005). The approach has become a very popular one to estimate casual treatment effects and widely applied when evaluating labor market policies. Lately it has become widely used for evaluating wage differences according to the effects of union membership, foreign firms, public sector, etc. (Bryson 2002; Martins 2004; Glinskaya and Lokshin 2005). We use this method here to evaluate the effects of part-time and temporary employment. So the treated groups are those who engaged in part-time or temporary work, and untreated individuals are those who work full-time or on permanent basis. The observed wage of treated people (part-time and temporary workers) is compared to the unobserved wage of untreated individuals (full-time and permanent workers), the characteristics of which are highly comparable to treated individuals. The effect is calculated as the difference between what a person really earns as a part-time or temporary worker and what he/she could earn in the counterfactual case that he/she were a full-time or permanent employee:

$$\Delta Wage_i^b = Wage_{1i}^b - Wage_{0i}^b \qquad (2)$$

We estimate the average treatment effect on the treated as we cannot afford too strict assumptions about the form of the combined distribution of observed and non-observed wages:

$$\Delta Wage^b = ATT$$
$$= E\{Wage_1 | D = 1, X\} - E\{Wage_0 | D = 1, X\} \quad (3)$$

where $D = 1$ for part-timers and temps, $D = 0$ for full-timers and permanent workers, X—the list of control individual characteristics (the same as was given above in the OLS model). Then, $Wage_1 | D = 1$, X—is the observed wage of the treated persons (part-time or temporary employees), and $Wage_0 | D = 1$, X—is the average wage of untreated persons with comparable (the same X) characteristics (full-time or permanent workers).

As we cannot observe the alternative wages, the task is to select the untreated control group with the characteristics as similar as possible to those of the treated group. The basis of the propensity score matching model is the index of *propensity score*, which is specially constructed according to the probability of being a part of the treated group depending on many of the observed person's characteristics. The values of the index lie between 0 and 1 (as calculated with the help of probit or logit model) and describe the differences of individual characteristics among persons. Individuals with similar characteristics have very close values of these indices (no matter if they were treated or not). So the *propensity scores* let us sort out a very similar control group and eliminate bias due to self-selection. The main advantage of the method is that it does not require any preliminary assumptions about the function form of the selection equation and wage equation or the form of error distribution in these equations.

I use a special module for STATA in order to apply PSM regression to our data (Leuven and Sianesi 2004). The individuals were selected by the nearest neighbor method to sort out the control group.

4 Results discussion

I begin the wage analysis by comparing simple average monthly wages of standard and non-standard workers. The relative monthly wages and relative working hours of non-standard workers are placed in Table 2. This shows that in 2003 temporary employees earned about 6% less than permanent workers, and part-time employees earned 50% less than full-time employees (per month). If we control for working hours the picture changes. Permanent and full-time employees work 40.7 and 42.7 hours per week, respectively, while temporary and part-time employees work 43.3 and 21.9. Comparing the average hourly wage rates we see that temporary workers earned even less per hour (by about 12%), however, they work longer (by 6%). Part-time workers are another case: although they work half as much, their hourly wage rate is 32% more than that of the full-time workers. These results from the comparison of simple means are more or less the same for males and females. So the first

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[4]As we estimate the natural logarithm of wage the effect of dummy variable is calculated as follows: $(e^D - 1) \times 100\%$, where D is the dummy coefficient.

Table 2 Relative monthly wage and relative working hours of temporary and part-time employees, 2003, NOBUS data, % (wages and working hours of permanent workers and full-time employees = 100%)

	Monthly wage	Working hours per month	Hourly wage rate
All employed			
Temporary/permanent	94.4	106.5	87.9
Part-time/full-time	61.2	51.3	133.3
Women			
Temporary/permanent	87.8	105.5	86.7
Part-time/full-time	70.5	53.3	142.2
Men			
Temporary/permanent	94.2	106	85.8
Part-time/full-time	59.3	48.5	145.1

result is that, in terms of hourly wages, temporary workers suffer from their non-standard status while part-time employees benefit from it.

Comparisons of the average wage differences for various socio-demographic groups provide another interesting outcome. Looking at the wage differences between part-time and full-time employees (Appendix, Table 7), one could conclude that the hourly wage rate is always higher for part-timers. The gap is positive for every social-demographic group and equals +30–40%. It is worth mentioning that the lowest difference is observed for professionals (+9%) and employees with tertiary education (+11.8%); and the highest one for persons engaged in agriculture (+85.5%), electricity (+82.3%) and senior managers (+72.1%).[5]

The first column of Table 8 (see Appendix) reflects differences in the average hourly wages of temporary and permanent workers by socio-demographic group. Men have a larger wage difference between temporary and permanent workers than women (−14.2% and −13.3%, respectively). It is interesting that married temporary and permanent workers have lower wage gap (−6.7%) than do unmarried employees (16.4%). The average wages of temporary and permanent workers differ greatly depending on age. The highest wage gap is for employees of 26–35 years old while the smallest one for workers under 25 years old and for those of 36–45 years. One possible explanation is that most young people start working on a probationary period, and hence on temporary contracts. They all have almost no working experience, which really decreases their salaries. Temps of 26–35 years old still have little working experience and poor

skills. At the same time, those who occupy permanent positions need to be motivated to stay with the firm, so their wages could be much higher. Temps of 36–45 years old are usually highly qualified professionals occupying high positions. That is why their hourly wages do not differ greatly from that of permanent employees. The gap grows for those older than 46 years old, because temporary workers here are usually those who have lower skills and are engaged in the secondary labor market.

The difference in earning between temporary and permanent workers shrinks with educational level: the higher the education, the smaller is the gap. The same is true for occupational status: the higher the position, the narrower is the gap in hourly wages. A special case is the group of low-skilled occupations, for which the gap is positive. Temporary employees with the highest rank on the occupational ladder even received benefits. The higher wages of managers, professionals and technicians reflects the importance of their social status, while the premium for low-skilled occupations means that they have casual unstable work which costs much, and the theory of compensation differences shows itself to be true here. There is also a large variation in hourly wages depending on sector. In almost every sector, permanent employees earn more, except agriculture and the public sector, where temporary employees receive higher wages. The differentiation of wage gaps depending on occupation and sector reflects the significant heterogeneity of temporary jobs. At the same time the difference in average wages between temporary and permanent workers does not vary much depending on the type of the settlement (it is higher by about 12–13% for urban residents than for rural residents).

We should keep in mind that, while comparing simple averages, we ignore worker heterogeneity and sample selection bias. So in order to take this into account, I assess a series of regressions to estimate the "pure" wage gaps between standard and non-standard workers.

As explained earlier, the dependent variable in the regressions is the logarithm of hourly wages, and the main tested independent variables are temporary employment, part-time-employment and their interaction. At the same time I control for gender, age, education level, occupation, industry, type of ownership, type of settlement, regional rate of unemployment and region. The results move in line with the results for some other European countries: temporary employment negatively affects wages, and this is true both for men and women (see Table 3).

Taking into account that fact that temporary employees are mostly those with a low educational level and who are less qualified (see Table 9 in the Appendix), we could conclude that this is in line with the segmented labor market theory.

The next step is to assess the regressions with Heckman correction in order to account for selection bias. Firstly I

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[5]Such great variation could be explained by the fact that we have small numbers of part-time workers in the sample and the further subdivisions increase standard errors. For that reason it seems more reasonable to discuss the sign of the gap and overall tendency but not the values of particular gaps.

Table 3 Regression coefficients of temporary employment (as dummy variable) for logarithm of hourly wage rate in OLS regressions, 1997

Countries	Men		Women	
	Number of observations	Coefficient	Number of observations	Coefficient
Austria	1587	−0.06*	854	−0.12**
Belgium	1155	−0.12**	702	−0.02
Denmark (1996)	1427	−0.06**	1097	−0.05**
Finland	1550	−0.16**	1525	−0.12**
France	959	−0.14**	861	−0.20**
Germany (1996)	2994	−0.10**	1724	−0.18**
Greece	131	−0.12**	743	−0.20**
Ireland	1334	−0.12**	748	−0.20**
Italy	2501	−0.13**	1372	−0.15**
Holland	2270	−0.24**	862	−0.22**
Portugal	2322	−0.07**	1558	−0.14**
Spain	2582	−0.16**	1212	−0.19**
Great Britain	2088	−0.13**	1481	−0.13**
Russia (2003)	19,948	−0.03**	22,972	−0.04**

Data source: OECD Employment Outlook 2002, p. 157; author's estimations on NOBUS data for Russia

**Significant at 0.05; *Significant at 0.1

estimated the regressions both for temporary and part-time employment separately for men and women (specifications 1.3 and 5.7 in Table 4). Then I assessed the same models adding the interaction of temporary and part-time work (specifications 2, 4, 6, 8 in Table 4). I assume that having both temporary and part-time work should enhance the effect of non-standard employment. The Rho-coefficient is significant for all specifications of regressions with Heckman correction for women. For men it is significant only for temporary employment.

The main conclusion is that temporary and part-time employment influence wages in opposite directions: while temporary employment has a negative impact on hourly wages, part-time employment affects them positively (application of the Heckman correction is statistically significant only for women). The interaction of temporary and part-time employment always gives an opposite sign compared to the dummy of non-standard employment. This means that adding the interaction to the specification with temporary employment decreases its negative effect, while adding the interaction to the specification with part-time employment diminishes its positive effect.

The wage gap between temporary and permanent workers tends to shrink when we account for personal and workplace characteristics: from −14% to −3.1% for men and from −13 to −3.7% for women (see Appendix: column 2 and 3 in Table 8). Moreover the gaps become insignificant for some social-demographic groups (for the age groups of 15–25 years old, 36–45 years old, and 56–65 years old; for employees with the lowest educational level and for those living in the countryside). I conclude

that Russian temporary workers suffer a loss as well as employees in Germany, UK, Netherlands and Sweden, but the gap is smaller for Russia (Segal and Sullivan, 1998; Booth et al. 2002; Hagen 2002; Addison and Surfield 2005).

The results of *Propensity Score Matching* show that the wage gaps between temporary and permanent workers are lower than the gaps between total means almost for all social-demographic groups, but at the same time they are insignificant in some cases. Although in general, the results of PSM regressions for temporary employment are consistent with the simple means and the results of OLS regressions, the negative effect is not universal and there is a considerable variation in the wage gaps between different social-demographic groups. There is a modest negative effect for those temporary workers who are unmarried; they earn 6.7% less than those who have a spouse. Employees engaged in trade and hotel businesses and those occupying clerks positions suffer a loss in terms of hourly wages (−12; −10.6%). As was shown before, public sector employees on temporary contracts have a significant benefit (+13.1%). This can be explained by the highly qualified and well-educated workers who dominate the education, health care and social spheres. They must have rather valuable human capital to be winners in wages.

Russian men working part-time get 50% more per hour than those working full-time (see Appendix: column 2 and 3 in Table 7). Women engaged in part-time employment earn more as well (+40%). I cannot say that we observe an unambiguous tendency for a decrease in wage gaps for different social-demographic groups when taking into account per-

Table 4 Regression coefficients of temporary and part-time employment in wage regressions (OLS + Heckman correction for males and females), NOBUS data, 2003

Logarithm of hourly wage	Men				Women			
	1	2	3	4	5	6	7	8
Temporary employment	−0.032**	−0.052***			−0.037***	−0.060***		
Part-time employment			0.411**	0.419***			0.339***	0.341***
Temporary employment part-time employment		0.415***		−0.036		0.343***		−0.016
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	31,838	31,838	31,977	31,838	40,185	40,185	40,313	40,185
Rho	0.054*	0.012	0.010	0.011	0.170***	0.144***	0.145***	0.143***

The list of control variables in the *main equation* consists of age, education level, marriage status, number of children, occupation, industry, type of ownership, type of settlement, regional rate of unemployment and regional dummies. The list of variables in the *selection equation* contains number of children of 0–6 year old and owning a flat or a house.

*, **, ***—10%, 5% and 1% significance level correspondently

sonal and workplace characteristics. For some groups, this is true—the wage gap becomes smaller than the simple mean difference for women, the youngest age group, etc. Yet in most cases it even grows. It is interesting that controlling for personal characteristics increases the wage premium for the most qualified workers, those with tertiary education and occupied professional positions. While the demand for such highly skilled workers is high, their supply is rather limited. As other research papers show, there are skill shortages in Russian industry for highly educated specialists (Gimpelson et al. 2010), for example, expensive consultants or private teachers who offer a small number of their working hours for a very high price.

The PSM results on the wage gap between part-time and full-time employees are also in line with the results obtained through other methods. All the gaps are positive and significant, but for particular groups they are much higher than with OLS or OLS with Heckman correction models. For example, the gap increases for men from 45% to 82.4%, for workers with the lowest education level from 40% to 76%, and for managers from 72% up to 135%. The benefits in wages of part-timers support the theory of effective hours, which claims that high productivity of shortened hours leads to a wage premium. Summing up, Russian part-time employees earn more than full-timers by hourly wage rates.

Unlike in Belgium, Britain, Spain, Denmark and Italy, the positive effect of part-time employment on wages is rather considerable in Russia. At the same time, these results correlated well with existing international research on the topic conducted by Hirsch (2004) for the USA and by Booth and Wood (2006) for Australia: part-time work increases wages, and this impact is significant for all social-demographic groups.

5 Conclusions

The paper addresses wage differences between standard and non-standard workers in Russia. This is the first attempt to evaluate the wage gap between temporary and permanent, and between part-time and full-time employees, using a large-scale survey of Russian households. The author applied several regression models to estimate the effects of temporary and part-time employment on hourly wage rates in Russia.

As temporary and part-time employment refer to precarious jobs, the employees working under such conditions are considered to be the victims of labor market flexibilization. They usually have no bargaining power to negotiate with employers, as the insiders maximize their benefits at the expense of outsiders (Lindbeck and Snower 1988; Bentolila and Dolado 1994). The wage gap is increasing while barriers between outsiders and insiders are strengthening. Firstly, since such employees occupy the "bad" segment of jobs due to self-selection, part-time or temporary employment would be comprised of workers with low competitive power. Secondly, workers who occupy such jobs accumulate human capital more slowly than do standard workers.

However, there are theoretical arguments which speak for the premium of non-standard employees compared to the wages of standard workers. According to the theory of compensated differentials, adverse characteristics of workplaces (like high risk of unemployment and uncertainty in the future) should be compensated in terms of higher wages.

Despite the fact that the theoretical discussion on "good" and "bad" jobs has been taking place for dozens of years, there is little empirical research on wage differences between standard and non-standard workers. One of the obvious reasons is the lack of necessary micro-level data. Most

of the existing studies show that non-standard workers earn less than standard workers. Unfortunately these studies usually ignore the heterogeneity of workers and jobs. Yet when these observed and unobserved characteristics are taken into account, the observed wage gap narrows or even disappears.

The main contribution of this paper is the placement of Russia into the international context of this issue. Another important contribution of the research is that it adds and enhances literature on the methodological issues regarding the estimation of the gaps between typical and atypical employment. Moving from simple means analysis to modern econometric techniques, which allow us to control for observed characteristics, this paper shows the importance of the methods utilized. It was demonstrated that the wage gap between temporary and permanent workers is −12% if we compare simple means and −4% if we control for observed characteristics. The results are consistent with all previous research, which showed wage loss for temporary employees. The wage difference between part-time and full-time workers in Russia was around 33% estimating simple means and more than 50% if we control for observed characteristics.

The rigid Russian Labour Code still restricts the labor supply for temporary/part-time positions, but at the same time, they are well protected in terms of firing costs and social guarantees, which could restrain the demand. In this way, in terms of the theory of compensation differences, the employment protection legislation encourages the labor market to compensate workers for their risks and "inferiority", and this seems to be true for part-timers. On the other hand, the explanation for the losses of temporary employees could be within the theory of segmented labor markets, as qualifications really do matter. The surplus of part-timers could be explained by high productivity in shorter working hours, as well as by the lack of supply.

Finally the analysis allows us to summarize that the initial conclusion that temporary and part-time employees suffer considerably in terms of earnings is not completely true. The wage gap between standard and non-standard workers often stems from their differences in educational level, occupations, personal characteristics and even workplace characteristics.

Executive summary

According to the previous published studies part-timers and temporary employees get less money on average per their work than full-timers and permanent workers. However, modern econometric techniques allow us to control for observable and non-observable characteristics that shrinks the gaps and shows the surplus for part-timers in their hourly wage rates. This research contributes to the literature by adding the information on Russian case and what is more

important enriches the methodological issue by testing the Propensity Score Matching model for the wage gaps of part-timers/full-timers and temporary/permanent employees.

The analysis is based on the representative Household Survey of Welfare dataset, collected by Rosstat and the World Bank in 2003. The total sample size is about 117 thousand people, the restricted sample of employed people aged 15–65 years is about 46 thousand respondents. The data allow defining different types of employment due to the questions about the contract type. Part-time workers are those who declare that they work less than 30 hours per week. Temporary workers are those who report that they were hired on fixed-term contracts, contracts for particular tasks or worked based on oral agreements. Despite the fact that temporary employees are very heterogeneous group they can be united on short-term basis of their contracts (explicit or implicit ones) and uncertainty for their future status on the labor market. According to the data approximately 10–11% of all employed had temporary jobs, and around 5% of all employed worked part-time in 2003.

The survey also contains the information about wages. In answering the question about wages, the respondents have to point out their net wages. It should be underlined that we look only at the wage from the primary place of work (which was identified by a respondent), even if a person has two or three jobs.

The analysis showed that it is not enough to calculate simple means in order to evaluate the differences in payments of the tested groups. We need to control at least for observed characteristics. Permanent and full-time employees work 40.7 and 42.7 hours per week, respectively, while temporary and part-time employees work 43.3 and 21.9. Comparing the average hourly wage rates temporary workers earned even less per hour (by about 12%), however, they work longer (by 6%). Part-time workers are another case: although they work fewer hours, their hourly wage rate is 32% more than that of full-time workers. The first step analysis demonstrates that, in terms of hourly wages, temporary workers suffer from their non-standard status while part-time employees benefit from it and the results are almost the same for males and females. The difference in earning between temporary and permanent workers shrinks with educational level: the higher the education, the smaller is the gap. The same is true for occupational status: the higher the position, the narrower is the gap in hourly wages.

The outcomes of the OLS with Heckman correction and PSM models confirm these results but the wage gap diminishes substantially when controlled for observed and non-observed characteristics at least for temps.

The main conclusion is that temporary and part-time employment influence wages in opposite directions: while temporary employment has a negative impact on hourly wages, part-time employment affects them positively (application

of the Heckman correction is statistically significant only for women).

The wage gap between temporary and permanent workers tends to shrink when we account for personal and workplace characteristics: from -14% to -3.1% for men and from -13% to -3.7% for women. I conclude that Russian temporary workers suffer a loss as well as employees in Germany, UK, Netherlands and Sweden, but the gap is smaller for Russia

Russian men working part-time get 50% more per hour than those working full-time and women engaged in part-time employment earn more as well (+40%). It was interesting that for part-time work there was no decrease in wage gaps for different social-demographic groups when taking into account personal and workplace characteristics. More over it increases the wage premium for the most qualified workers, those with tertiary education. Unlike in Belgium, Britain, Spain, Denmark and Italy, the positive effect of part-time employment on wages is rather considerable in Russia. At the same time, these results correlated well with existing international research on the topic conducted for the USA and for Australia: part-time work increases wages, and this impact is significant for all social-demographic groups.

Appendix

Table 5 Determinants of wages, NOBUS data, 2003: part-time employment

	OLS		OLS + Heckman			
	Coefficient	St. er.	Coefficient	St. er.	Coefficient	St. er.
Part-time employment	0.362***	0.014	0.358***	0.012		
Male	0.254***	0.006	0.260***	0.007	0.153***	0.011
15–25 years old	−0.106***	0.010	−0.133***	0.012	−0.605***	0.020
26–35 years old	−0.013	0.008	−0.015*	0.008	−0.044**	0.018
36–45 years old						
46–55 years old	−0.009	0.008	−0.011	0.008	0.100***	0.017
56–65 years old	−0.118***	0.012	−0.162***	0.015	−0.395***	0.024
Lower than secondary education	−0.293***	0.010	−0.317***	0.012	−0.869***	0.017
Secondary education	−0.186***	0.009	−0.196***	0.010	−0.346***	0.017
Tertiary education						
Being married	0.041***	0.007	0.045***	0.007	0.128***	0.013
Number of children	−0.018***	0.005	−0.019***	0.004		
Managers	0.203***	0.020	0.202***	0.019		
Professionals						
Technicians	−0.137***	0.011	−0.137***	0.011		
Clerks and service workers	−0.289***	0.012	−0.288***	0.012		
Skilled agricultural workers, graft workers	−0.235***	0.013	−0.233***	0.013		
Operators	−0.227***	0.016	−0.225***	0.015		
Low-skilled occupations	−0.585***	0.013	−0.584***	0.013		
Agriculture, hunting, forestry and fishing	−0.629***	0.014	−0.628***	0.012		
Mining, quarrying and manufacturing						
Electricity, gas and water supply	0.128***	0.015	0.129***	0.016		
Construction	0.014	0.013	0.015	0.013		
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, hotels and restaurants	−0.202***	0.012	−0.201***	0.012		
Transport, storage and communications	0.067***	0.012	0.068***	0.012		
Financial intermediation, real estate, renting and business activities	0.009	0.020	0.008	0.020		
Public administration and defense; compulsory social security, education, health, social work, other community, social and personal service activities	−0.294***	0.010	−0.295***	0.010		
Other activities	−0.207***	0.013	−0.207***	0.013		
Public ownership of the enterprise	0.029***	0.008	0.030***	0.007		
City with more than 500 thousand people	0.060***	0.010	0.060***	0.011		
City with 100–500 thousand people	0.012	0.009	0.013	0.009		
Town with 20–100 thousand people						
Unemployment rate in the region	−0.195***	0.009	−0.194***	0.009		
Country side, village	−0.017***	0.002	−0.018***	0.001	−0.036***	0.002
Number of children of 0–6 years old					−0.319***	0.026
Owning a flat/house					−0.142***	0.026
Control for region	Yes		Yes		Yes	
Constanta	3.318***	0.019	3.314***	0.017	1.774***	0.037
Athro			0.107***	0.021		
R^2	0.407					
Rho			0.107			
N	43,187		72,290			

***< 0.001; **< 0.05; *< 0.1

Table 6 Determinants of wages, NOBUS data, 2003: temporary employment

	OLS		OLS + Heckman			
			Main equation		Section equation	
	Coefficient	St. er.	Coefficient	St. er.	Coefficient	St. er.
Temporary employment	−0.038***	0.012	−0.039***	0.010		
Male	0.244***	0.007	0.251***	0.007	0.154***	0.011
15–25 years old	−0.098***	0.011	−0.133***	0.012	−0.608***	0.020
26–35 years old	−0.010	0.008	−0.013	0.008	−0.047**	0.018
36–45 years old						
46–55 years old	−0.008	0.008	−0.011	0.008	0.100***	0.017
56–65 years old	−0.102***	0.012	−0.159***	0.015	−0.396***	0.024
Lower than secondary education	−0.297***	0.011	−0.329***	0.012	−0.870***	0.017
Secondary education	−0.190***	0.009	−0.203***	0.010	−0.346***	0.017
Tertiary education						
Being married	0.038***	0.007	0.044***	0.007	0.129***	0.013
Number of children	−0.016***	0.005	−0.017***	0.004		
Managers	0.172***	0.020	0.170***	0.020		
Professionals						
Technicians	−0.153***	0.011	−0.152***	0.012		
Clerks and service workers	−0.309***	0.012	−0.307***	0.012		
Skilled agricultural workers, graft workers	−0.251***	0.013	−0.248***	0.013		
Operators	−0.247***	0.016	−0.244***	0.016		
Low-skilled occupations	−0.585***	0.014	−0.583***	0.013		
Agriculture, hunting, forestry and fishing	−0.627***	0.015	−0.626***	0.012		
Mining, quarrying and manufacturing						
Electricity, gas and water supply	0.131***	0.015	0.132***	0.016		
Construction	0.021	0.013	0.023*	0.013		
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, hotels and restaurants	−0.187***	0.012	−0.186***	0.012		
Transport, storage and communications	0.077***	0.012	0.078***	0.012		
Financial intermediation, real estate, renting and business activities	0.013	0.020	0.011	0.020		
Public administration and defense; compulsory social security, education, health, social work, other community, social and personal service activities	−0.263***	0.010	−0.265***	0.010		
Other activities	−0.190***	0.013	−0.190***	0.013		
Public ownership of the enterprise	0.019**	0.008	0.019**	0.007		
City with more than 500 thousand people	0.062***	0.010	0.061***	0.011		
City with 100–500 thousand people	0.014	0.009	0.014	0.009		
Town with 20–100 thousand people						
Country side, village	−0.185***	0.009	−0.184***	0.009		
Unemployment rate in the region	−0.015***	0.002	−0.017***	0.001	−0.036***	0.002
Number of children of 0–6 years old					−0.314***	0.026
Owning a flat/house					−0.141***	0.026
Control for region	Yes		Yes		Yes	
Constanta	3.342***	0.019	3.337***	0.018	1.771***	0.037
Athro			0.139***	0.021		
R_2	0.396					
Rho			0.138			
N	42,920		72,023			

***< 0.001; **< 0.05; *< 0.1

Table 7 Wage differences between part-time and full-time workers by socio-demographic factors, %

	Means differences	OLS	OLS with Heckman correction	PSM
Total	43.3	43.6*	43.1*	59.7*
By gender				
Men	45.3	50.9*	50.8*	82.4*
Women	42.2	40.8*	40.4*	46.6*
By age				
15–25 years old	47.1	45.8*	44.7*	71.0*
26–35 years old	42.3	52.6*	52.6*	66.9*
36–45 years old	26.5	37.0*	37.1*	48.8*
46–55 years old	23.9	40.0*	39.2*	52.3*
56–65 years old	42.6	45.1*	45.1*	52.2*
By marriage				
Married	35.0	45.4*	45.2*	63.4*
Not married	32.9	40.9*	40.1*	48.9*
By education				
Lower than secondary	40.6	44.1*	43.4*	76.3*
Secondary	34.3	46.8*	45.9*	63.4*
Tertiary	11.8	37.6*	37.9*	47.8*
By professional groups				
Managers	72.1	54.1*		135.7*
Professionals	9.0	37.7*		40.8*
Technicians	36.3	50.0*		74.7*
Clerks and service workers	58.8	44.6*		70.4*
Skilled agricultural workers, graft workers	60.2	42.9*		65.4*
Operators	40.8	45.6*		41.6*
Low-skilled occupations	45.9	35.2*		53.3*
By industries				
Agriculture, hunting, forestry and fishing	85.5	50.0*		108.0*
Mining, quarrying and manufacturing	43.3	38.0*		47.5*
Electricity, gas and water supply	82.3	70.1*		100.0*
Construction	51.7	41.3*		104.8*
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, hotels and restaurants	57.5	56.1*		75.2*
Transport, storage and communications	30.3	21.6*		86.8*
Financial intermediation, real estate, renting and business activities	38.2	22.5		67.7*
Public administration and defense; compulsory social security, education, health, social work, other community, social and personal service activities	41.5	40.9*		44.3*
Other activities	40.8	43.5*		65.9*
By type of settlement				
City with more than 500 thousand people	39.1	44.7*	45.5*	77.9*
City with 100–500 thousand people	27.4	43.5*	43.3*	55.3*
Town with 20–100 thousand people	27.4	39.4*	39.2*	47.9*
Country side, village	52.0	41.2*	40.6*	58.9*

*< 0.05

Table 8 Wage differences between temporary and permanent workers by socio-demographic factors, %

	Means differences	OLS	OLS with Heckman correction	PSM
Total	−12.1	−3.7*	−3.8*	−3.4
By gender				
Men	−14.2	−3.1*	−3.1*	−2.8
Women	−13.3	−3.6*	−3.7*	−2.6
By age				
15–25 years old	−5.9	−2.2	−2.5	2.4
26–35 years old	−14.6	−5.4*	−5.4*	−2.2
36–45 years old	−7.6	−2.1	−2.0	−4.2
46–55 years old	−11.0	−6.8*	−6.9*	−2.1
56–65 years old	−9.5	−2.3	−2.1	5.1
By marriage				
Married	−6.7	−3.4*	−3.5*	−4.3
Not married	−16.4	−4.7*	−4.9*	−6.7*
By education				
Lower than secondary	−12.1	−1.4	−1.6	−4.6
Secondary	−8.6	−5.6*	−5.8*	−4.2
Tertiary	3.8	−4.3	−4.3*	−0.7
By professional groups				
Managers	33.4	−2.0		37.0
Professionals	4.8	−0.6		0.9
Technicians	9.0	0.5		−7.2
Clerks and service workers	−9.8	−6.8*		−10.6*
Skilled agricultural workers, graft workers	−3.8	−5.5*		4.1
Operators	−12.0	−11.5*		−10.7
Low-skilled occupations	14.5	2.1		9.8
By industries				
Agriculture, hunting, forestry and fishing	36.2	24.6*		15.3
Mining, quarrying and manufacturing	−5.2	−10.2*		3.5
Electricity, gas and water supply	−22.1	−19.5*		−16.9
Construction	−14.5	−4.5		−1.1
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, hotels and restaurants	−20.5	−6.9*		−12.0*
Transport, storage and communications	−17.1	−15.4*		−13.2
Financial intermediation, real estate, renting and business activities	−20.3	−13.8*		1.4
Public administration and defense; compulsory social security, education, health, social work, other community, social and personal service activities	15.3	6.1*		13.1*
Other activities	−10.7	−11.3*		−18.3*
By type of settlement				
City with more than 500 thousand people	−13.3	−9.5*	−9.5*	−3.6
City with 100–500 thousand people	−11.2	−5.8*	−5.9*	−8.5
Town with 20–100 thousand people	−15.7	−7.7*	−7.7*	−6.5
Country side, village	−12.8	2.6	2.4	−1.5

$* < 0.05$

Table 9 The rate and structure of temporary and part-time employment in Russia, NOBUS data, 2003, %

	Temporary employment rate among employed…	Temporary employment structure (100%)	Part-time employment rate among employed…	Part-time employment structure (100%)
By gender				
Men	12.4	54.9	3.8	28.6
Women	9.2	45.1	8.7	71.4
By age				
15–25 years old	20.4	23.9	7.5	14.5
26–35 years old	12.6	27.4	6.3	23.3
36–45 years old	9.7	25.4	5.8	26.3
46–55 years old	6.7	18.1	5.4	24.6
56–65 years old	7.9	5.2	10.4	11.2
By marriage				
Married	13.5	40.3	5.6	28.6
Not married	10.5	45.3	5.5	40.2
By education				
Lower than secondary	7.1	14.4	9.1	31.2
Secondary	14.4	41.7	7.4	35.9
Tertiary	9.0	58.3	5.8	64.1
By professional groups				
Senior managers	6.1	1.6	3.8	2.1
Professionals	4.3	6.2	11.7	25.9
Technicians	5.5	10.8	7.0	21.2
Clerks and service workers	16.4	32.0	5.5	18.0
Skilled agricultural workers, graft workers	8.6	17.3	2.8	9.0
Operators	6.8	4.5	2.0	2.0
Low-skilled occupations	20.1	27.7	9.9	21.8
By industries				
Agriculture, hunting, forestry and fishing	11.1	9.8	5.1	8.4
Mining, quarrying and manufacturing	5.8	9.5	2.3	6.2
Electricity, gas and water supply	4.5	1.6	1.7	1.0
Construction	19.7	12.7	2.7	2.9
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, hotels and restaurants	29.0	34.6	5.9	13.6
Transport, storage and communications	7.2	6.4	4.1	6.0
Financial intermediation, real estate, renting and business activities	7.6	1.7	4.2	1.6
Public administration and defense; compulsory social security, education, health, social work, other community, social and personal service activities	5.5	15.1	11.8	50.9
Other activities	11.1	8.6	7.1	9.3
By tenure				
Less than 1 year	31.7	40.1	8.6	19.2
1–3 years	16.4	29.9	5.6	18.0
3–5 years	10.1	12.0	5.2	11.0
5–10 years	5.9	9.3	5.1	14.3
More than 10 years	2.5	8.7	6.1	37.6

Table 9 (*Continued*)

	Temporary employment rate among employed...	Temporary employment structure (100%)	Part-time employment rate among employed...	Part-time employment structure (100%)
By type of settlement				
City with more than 500 thousand people	10.2	18.8	5.1	15.7
City with 100–500 thousand people	11.8	28.0	5.6	22.4
Town with 20–100 thousand people	10.7	16.8	5.0	13.4
Country side, village	10.2	36.4	8.0	48.5
Having studies				
No	10.4	92.2	6.0	90.4
Yes	16.9	7.8	12.7	9.6
Getting pension				
No	11.0	91.4	5.7	80.0
Yes	8.3	8.6	11.8	20.0

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