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The Gender Wage Gap and Wage Arrears in Russia: Evidence from the RLMS

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Abstract: Using the RLMS, this paper re-examines the gender wage gap in Russia from 1994 to 1998. We found that the average gender wage gap was fairly stable during 1994-1996 but that it became wider following the financial crisis of 1998. In particular, low-income female employees were hardest hit by the financial crisis. Furthermore, we found that wage arrears and payment in kind acted as compensating mechanisms to reduce losses stemming from higher wage discrimination, suggesting that the allocation of wage arrears and payment in kind was driven by equity considerations for female workers. Yet the relationship between wage arrears and the gender wage gap was not linear: female employees suffering wage arrears at low levels of the wage distribution failed to enjoy such compensation.

Key Words: RLMS, gender wage gap, wage arrears, payment in kind.

JEL classification: J31, J71, P20

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1. Introduction

The Soviet labour market, built on the 'principle of equal pay for equal work'[1] was characterised by one of the highest female participation rates in the world. It may therefore appear somewhat surprising to discover that studies of the Soviet wage distribution (see Chapman, 1979; McAuley, 1979; Bergson, 1984; Atkinson and Micklewright, 1992) reveal a level of gender wage differentials in keeping with that found in many OECD economies. McAuley (1981) attributes this fact to the comparative advantage held by men in meeting performance standards in certain 'physical' occupations, which in turn, serves to segregate women into certain types of jobs[2].

The transition and the associated dismantling of the mechanisms that restrained the labour market have dramatically altered the factors governing the determination of wages. Given the background of Soviet gender-wage inequality, the sharp decline in female participation rates in the transition countries[3] and the emergence of greatly improved micro-datasets one key question requiring empirical investigation concerns the effect of the ongoing transition on the male-female wage differential.

To date, there have been several attempts to measure and explain the extent of the gender wage gap in Russia (Silverman and Yanowitch, 1997; Reilly, 1999; Brainerd, 1998; Glinskaya and Mroz, 2000). Most of these studies are based on the Oaxaca-Blinder (1973) decomposition. Overall, these studies suggested that the gender wage gap increased during the initial transition period but that there has been little change in the gender wage differential in the years that followed. Note that all of the above studies analysed the gender wage gap in the period before the 1998 Russian financial crisis.

[1] Documented in the Soviet labour code 1922

[2] For example, Katz (1997) uses a household survey that was conducted in the urban town of Tarangog in the Soviet period. Based on the Oaxaca decomposition, he reported the ratio of female to male hourly wages as 0.73, of which only 15.4 percent was accounted for by differences in endowments.

[3] For details, see Boeri et al., (1998).

A study of the Russian labour market is not complete without accounting for the emergence of Russia's unique labour market characteristics. Unprecedented delays in the payment of wages and the widespread use of payment in kind have become endemic features of the Russian labour market in transition. Wage arrears, have accumulated rapidly since 1994, reaching 8 billion dollars in 1997, and affecting 62 per cent of the households surveyed by the Russian Longitudinal Monitoring Survey (RLMS). As of early 1997, the stock of outstanding unpaid wages amounted to approximately 275 per cent of the monthly wage bill of employees who were actually owed wages (Russian Economic Trends, 1997, 1).

Several studies claim that the allocation of wage arrears is differentiated across employees and used strategically by employers. Desai and Idson (1998) suggest that employers tried to reduce the incidence and period of wage arrears for highly productive workers to retain them in the firm and, as a result, less productive workers became the primary targets for delays in wage payment. Earle and Sabirianova (1998) maintain that firms use wage arrears in a discriminating way against employees who have job specific skills. In the same spirit, Lehman et al. (1999) find that firms allocate wage arrears to the most stable employees.

A large number of studies analyse the gender pay differential and the phenomenon of wage arrears in separate strands and thus there has been little discussion of the actual relationship between the gender wage gap and wage arrears. Specifically, were wage arrears concentrated on female employees already suffering from higher wage discrimination compared to male employees? Alternatively, did employers allocate wage arrears among female employees in a manner that compensated them for the loss encountered due to higher wage discrimination? Finally, how did the Russian financial crisis of 1998 impact upon the gender wage gap and its association with wage arrears? This paper sets out to investigate the above questions.

We found that the average gender wage gap was fairly stable during 1994-1996 but that the differential widened following the financial crisis of 1998. In particular, female employees at lower income levels were hurt most by the financial crisis. Furthermore, we found that wage arrears and payment in kind acted as compensating

mechanisms to offset the losses from higher wage discrimination, suggesting wage arrears were driven by equity considerations for female workers. Yet the relationship between wage arrears and the gender wage gap did not prove to be linear: female employees suffering wage arrears at low levels of the wage distribution failed to enjoy such compensation.

We proceed as follows. In the next section, we examine the various approaches adopted in wage discrimination studies and their application to countries in transition. In section 3, after a brief discussion of the data, we estimate the wage equations and correct for selectivity bias where necessary. In section 4, we analyse the size and composition of the gender wage gap applying the Oaxaca-Ransom decomposition; we investigate wage differentials according to income percentiles and we explain the effects of wage arrears and payment in kind on the gender wage gap. Section 5 concludes the paper.

2. Wage discrimination: related literature

To date, there have been a number of attempts to explain and measure the extent of the gender wage gap. Most of these studies are based on the Oaxaca-Blinder (1973) decomposition in which wage equations are estimated separately for men and women in order to allow for different rewards by gender to a set of productive characteristics or endowments. The male-female average wage differential is explained in terms of the difference in average endowments evaluated at the male (or female) pay structure and the difference in returns evaluated at the female (male) average endowment. Note that, in the absence of discrimination, men and women will have the same return (i.e. estimated coefficients) for similar endowments, so the second difference is interpreted as "discrimination".

Researchers have dealt with the issue of not knowing if the male or female pay structure will prevail in the absence of discrimination (i.e. the "index number

problem")[4] by reporting both estimates and thus, reporting a "discrimination" bracket. Others, estimate the non discriminatory pay structure as the linear combination of the estimated female and male return weighted by the percentage of females and males in the sample (Cotton, 1988) or use the estimate of a pooled male-female wage equation (Oaxaca and Ransom, 1989).

Juhn, Murphy and Pierce (1993) and Blau and Kahn (1996) extended the basic decomposition to study the gender wage gap over time. Changes in wage inequality are explained by a) changes in observed characteristics or endowments, b) changes in the returns to observable characteristics, and c) changes in the distribution of the residuals due to both changes in percentile rankings within the residual wage distribution and changes in the wage distribution itself[5]. This residual differential provides the estimates of "discrimination". Note that this approach is also subject to the "index number problem".

There is a growing empirical literature relating to the gender wage differential in the transition economies[6]. For Russia, Silverman and Yanowitch (1997) concluded that as of 1994, "women constituted the majority of the working poor and, of course, represented only a minority of the new rich". They found that the average female-male wage ratio was 0.68. More interestingly, they found a wide variation in the pay gap depending on which gender dominates a particular occupational category.

Following Juhn et al (1993), Reilly (1999) analysed the gender pay gap in Russia using 4 rounds of the RLMS data (1992-1996). He found that the observed monthly wage gap remained fairly stable (at around 38 percent) throughout. After adjusting for human capital and other variables, the wage gap increased slightly. In particular, he found that women gained in terms of both observed characteristics and prices, and also in their position in the residual male wage distribution; but these gains were offset by a dramatic increase in the level of wage dispersion. The findings by Brainerd

[4] For more details, see MacIsaac and Patrinos (1995) and Parternostro and Sahn (2000).
[5] See Suen (1997) for more details about decomposition and interpretation of the residual differential.

(1998) using the VTsIOM (Russian acronym for All Russian Centres for Public Opinion Research) monthly cross-section data for 1991, 1993 and 1994 were also attributed to an increase in wage dispersion[7]. The female/male wage ratio in the state/private sector fell quite strikingly from 0.81/0.75 in 1991 to 0.68/0.61 in 1994 but little of this gap could be accounted for by occupational and industry shifts unfavourable to females.

In line with Reilly (1999) and applying similar methodology, Glinskaya and Mroz (2000) found little evidence of a significant increase in the level of gender inequality from 1992 to 1995. Using the male (female) reward structure as the benchmark, they found that 97 (74) to 117 (80) percent of the gender gap in wages could be attributed to differences in rewards or 'discrimination'. Moreover, they found that the percentage of gender differences attributed to 'occupation' is larger when the female reward structure is used as a benchmark than when the male reward structure is used, suggesting larger occupational differences in wages for women than men. In terms of income distribution, they argued that inequality in male wages increased more than inequality in female wages and that inequality is a problem in the upper half of the wage distribution.

In the above studies, the estimated male wage equation is preferred to the female wage equation on the basis that males are less affected by the underlying discriminatory process and that the female estimates are more prone to selectivity bias. Arabsheibani and Lau (1999) criticise studies that attempt to measure the gender pay gap without correcting for selectivity bias in the female equation. They used the 1994 RLMS data to estimate the female equation incorporating the Heckman (1979) correction for selectivity bias. They found that the degree of discrimination was still large (59 percent of the wage differential) but smaller than in studies not correcting for selectivity bias.

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[6] Among others, Paternostro and Sahn (2000) applied the Oaxaca-Ramson framework and analysed the gender wage gap in Romania while Orazem and Vodopivec (1995, 1998) applied the Juhn et al. decomposition to Eastern Europe.

[7] This study has two drawbacks: i) it is not nationally representative as there is over representation of highly educated people and ii.) the wages reported are monthly wages unadjusted for hours.

However, the validity of the Heckman selectivity test depends on the model being correctly specified. In addition, note that the measure of "discrimination" relies on the estimation of the wage equations and on the validity of the OLS assumptions. That is, for the decomposition to be valid, the researcher should include all relevant characteristics in the wage equation and assume that**,** in the absence of discrimination, there is no other reason why wages should differ[8].

What can we learn from the above studies? Firstly, the measure of 'discrimination' depends on the robustness of the estimated wage equation. Therefore, it is important to address the problems of selectivity bias, potential endogeneity bias and possible misspecification of the wage equation. Secondly, the analysis of discrimination based on average wage comparisons is of limited help if the discrimination experienced is not homogeneous. Therefore, the analysis of earnings discrimination should take into account the complete distribution of discrimination experienced (Jenkins, 1994). Thirdly, but no less importantly, there is a need to interpret the empirical results in the light of the other salient features of the Russian labour market such as delayed wage payments and payment in kind.

3. Estimation of the Wage Equation

Our data set comprises rounds 5 (1994), 6 (1995), 7 (1996) and 8 (1998) of the RLMS. The RLMS is a nationally representative survey of the Russian Federation providing income, expenditure, demographic, education and labour force information about households and individuals.

We take different retirement ages into account and restrict our sample to males aged 18 to 60 and females aged 18 to 55. We measure real wages as average real hourly wages on the main job. The latter is obtained using the Goskomstat regional consumer price index and the total primary job hours reported for the month prior to the interview.

Our data allows us to include demographic variables such as age, proxy educational attainment, incorporate group occupational categories according to the International Standard Classification of Occupations (ISCO), and control for settlement type and region.

The underlying specification of our wage equation is similar to that of Reilly (1999) and Glinskaya and Mroz (2000), but in addition includes a proxy for settlement type and region. That is, as explanatory variables we have a set of human capital variables, augmented with controls for type of settlement and region. The effects of type of occupation, wage arrears and payments in-kind are picked up from the estimated wage residuals and taken into consideration when analysing the gender wage gap. This procedure will enable us to test (and correct when necessary) for sample selection bias and to examine the extent of omitted variable biases in our estimated wage equation.

We use five education categories[9] to signal the level of educational attainment. Individuals were asked whether or not they completed (i.e. received a diploma) undergraduate and postgraduate university, technical and medical school, vocational training (PTU, FZU, etc.), high school (11 years), or incomplete high school (8 years). In the absence of information on labour force experience, we include age (and age squared) and job tenure.

We classify occupations according to the ISCO one digit classification: legislators, senior managers and officials; professionals, technicians and associated professionals; non-manual skilled workers (clerks, service workers and market workers); manual skilled workers (agriculture and fishery workers, craft and related trades, plant and machine operators and assemblers); unskilled and armed forces. The different sampling sites enable us to control for settlement type (urban areas, agricultural villages and non-agricultural villages) as well as regional characteristics.

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[8] We are aware of these caveats when analysing our empirical results. See footnote 14.

[9] This was preferred to 'years of education' because the effects of education on wages were found to be non-linear. See Newell and Reilly (1997) for details concerning the advantages of using a set of educational qualifications in place of years of education in transitional economies.

The problem of wage arrears and payments in-kind in Russia is particularly acute and is likely to affect the estimation of the wage equation and the gender pay gap. Our dependent variable measures gross real hourly wages on the main job in the last 30 days and not necessarily the contractual real hourly wage. Given data limitations, and as suggested by Earle and Sabirianova (1999), we include a qualitative variable which indicates if the interviewee is experiencing wage arrears in the main job at the time of the interview. This is, we know, a crude approximation of wage arrears, though no more so, given the available data, than attempts at constructing a 'contractual' wage[10]. Earle and Sabirianova (1999) argue that wage arrears in the labour market have an independent dynamic from the practice of paying workers in-kind. Workers signed a contract to agree payment in-kind (frequently, goods produced by the company) in exchange for cash. Given the high cost of finding a new job in Russia, this 'attachment' may be used by firms to lower the probability of job mobility. As with wage arrears, we encounter data problems with payment in-kind and included it as a qualitative dummy. Table 1 provides a full definition of the variables and summary statistics.

As for the wage equation, we follow Heckman (1979) and Maddala (1983). The regression equation is,

$$\mathbf{W} = \beta_o + \beta_i \mathbf{X} + u_1, \qquad \text{where } u_2 \sim N(0, \sigma_1^2) \qquad (1)$$

The dependent variable, **W**, is the market wage and the vector X represents the exogenous determinants of **W**. However, **W**, is only observed for individuals with positive hours i.e. H > 0. The shadow-wage equation is thus,

$$\mathbf{S} = \gamma_o + \gamma_1 \mathbf{H} + \gamma_2 \mathbf{Z} + u_2, \qquad \text{where } u_2 \sim N(0, \sigma_2^2) \qquad (2)$$

[10] For example, Glinskaya and Mroz (2000) constructed 'contractual' hourly payment using reported income in kind paid in the last 30 days and the total amount of arrears divided by the number of months owed.

Z is the vector of exogenous variables assumed to determine whether **W** is observed and it is presupposed that **H** (hours worked) adjusts such that **W**=**S**. That is

$$\mathbf{H} = \frac{\beta_o + \beta_i \mathbf{X} - \gamma_0 - \gamma_2 \mathbf{Z}}{\gamma_1} + \frac{(u_2 - u_1)}{\gamma_1} \tag{3}$$

If **H**>0, the person is in the labour force and we observe **W** and **H** and if $\mathbf{H} \leq 0$, the person is not in the labour force. That is, the selection equation for $\mathbf{H} \leq 0$ is

$$\beta_o + \beta_i \mathbf{X} - \gamma_0 - \gamma_2 \mathbf{Z} + u_2 - u_1 < 0 \tag{4}$$

If $\text{var}(u_1 - u_2) = \sigma^2$, then the probit equation is

$$\text{Prob}(\mathbf{H} \leq 0) = \mathbf{\Phi}\left(\frac{\gamma_0 - \beta_o + \gamma_2 \mathbf{Z} + \beta_i \mathbf{X}}{\sigma} \right) = \mathbf{\Phi}(\mathbf{\Delta}) \tag{5}$$

where $\mathbf{\Phi}(.)$ is the distribution function of the standard normal. Heckman applies ML to the following likelihood function

$$\mathbf{L} = \prod_{H \geq 0} F(\mathbf{W}, \mathbf{H}) \cdot \prod_{H \leq 0} \mathbf{\Phi}(\mathbf{\Delta}) \tag{6}$$

Note that if the error term from the selection rule and the market wage are correlated, then standard techniques applied to equation (1) yield biased results. Also note that all the variables included in the market wage equation must also be included in the probit equation since the participation decision (based on the reservation wage) depends on the mean of the wage offer distribution[11]. The **Z** variables in the selection equation are required in order to identify the reservation wage function.

[11] Arabsheibani and Lau (1999) test for selection bias in the female wage equation and include more variables in the observed wage equation than in the selection equation. Pailhé (2000) includes occupational classification and firm ownership in the wage and selection equation.

We assume that the hourly wage is a function of age, age squared, settlement type, education, and regional characteristics. The likelihood of working (i.e. the likelihood of wages being observed) is assumed to depend additionally on marital status, number of children less than 17 years old, number of elderly people living at home, and (implicitly) the hourly wage offer (i.e. our Z variables). Dumwork is the binary variable that identifies the observations for which wages are observed (or selected). Given the growing informal sector in Russia, dumwork takes the value of 1 if the person is working in the formal sector, informal sector or both[12]. Here, the implicit assumption made is that the formal and informal sectors are both affected by the same reservation wage function. Whilst we recognise that this is far from realistic, modelling work choice applying conditional probit equations, which is more realistic, is complex and outside the scope of the present paper.

We do not incorporate job occupation, wages arrears and payment in-kind in the wage or probit equation, because the questions for these variables were asked only to individuals who have main jobs. Yet, the effect of these variables will be captured in the estimated residuals of the wage equation.

Tables 1 to 4 in the appendix present the results of the probit equation and the Heckman selectivity test. We found that the female wage equation in round 5 and the male wage equation for both rounds 6 and 8 exhibited sample selection bias at conventional five-percent levels. The coefficient of the inverse Mills ratio (λ) is negative suggesting that participants in the labour force have an advantage over a person randomly drawn from the population.

Overall, as in Newell and Reilly (1996) and Reilly (1999), the augmented Mincerian wage equation provides a satisfactory fit to the Russian data, except for females in round 8. In terms of the returns to educational qualifications, university education has a significant effect on both male and female wages in almost all rounds. Postgraduate education has a statistically positive influence on female wages in all rounds except

[12] We also defined the dummy variable according to a specific number of hours e.g. if in round 5 all who reported wages worked a minimum of 8 hours, we only assigned 1 to people working in the

round 7. Technical and medical qualifications have a significant effect only on the female wage in rounds 6 and 8. As expected, the female and male earnings pattern suggests that university graduates are the highest earners followed by technical and medical graduates, high school leavers and those with vocational training.

Workers living in Central and Central-Black Earth, Volga-Vyatski and Volga-Basin, and the North Caucasus and**,** for females, in the Urals fare worse than those living in other regions. The magnitude of the female disadvantage is larger than that for males. Living in Moscow and St Petersburg does not significantly explain the male wage and has significant negative influence on the female wage in round 5 but a positive influence in round 8. Not surprisingly, workers in towns and rural non-agricultural areas have a significant wage premium over workers living in rural agricultural areas.

One may ask whether possible biases arising from the exclusion of wage arrears or in kind payment in the wage estimations affect our analysis of their association with the gender wage gap. In order to check this possibility, we regress residuals from wage estimations on wage arrears and income in kind controlling for occupation type. We find that in most cases, there is a significant and negative relationship between the residuals and wage arrears/payment in kind. This implies that residuals are not white noise and thus inferences from comparing coefficients in the male equations with those in the female equations might be biased. However, for most rounds, the sizes of the coefficient on wage arrears in the male equations are similar to those in the female equations (see appendix table 5). This is also largely true in the case of payment in kind. These regression results suggest that the effects of wage arrears and income in kind on wages are of similar magnitude regardless of gender. Therefore, the exclusion of the two variables in wage regressions does not affect the results obtained from comparing coefficients from the female wage equations with those from the male wage equations.

4. Measuring the Gender Wage Gap

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informal sector at least 8 hours. The results do not differ substantially and are not reported.

According to Oaxaca and Ransom (1989, 1994), the gross wage differential can be written as:

$$\ln \overline{W}_m - \ln \overline{W}_f = \overline{X}_m \hat{B}_m - \overline{X}_f \hat{B}_f \quad (8)$$

and it can de decomposed as

$$\ln \overline{W}_m - \ln \overline{W}_f = (\overline{X}_m - \overline{X}_f)\hat{B}^* + [(\hat{B}_m - B^*)\overline{X}_m + (B^* - \hat{B}_f)\overline{X}_f] \quad (9)$$

where $\ln \overline{W}_m$ and $\ln \overline{W}_f$ are the average log wages of male and female, $\overline{X}_m$ and $\overline{X}_f$ are the average male and female characteristics or endowments, $\hat{B}_m$ and $\hat{B}_f$ are the estimated coefficients of the male and female regression and B^* is the estimated coefficient of the non-discriminatory wage structure. We assume that B^* is an estimate of the common wage structure obtained from OLS estimation using a pooled sample of male and females. That is, the gender wage gap is explained by the differences in average endowments and by the differences in return to those endowments. The first part of the term in [] is interpreted as the 'male advantage' (MA) and the second part as the 'female disadvantage' (FD).

4.1. The size of the gender wage gap

Table 2 presents summary statistics for the gender wage differential. According to the raw wage gap, 96% of the women in the sample of round 5 encounter a disadvantageous position relative to the non-discriminatory structure. This share decreased to 88% in round 7 before returning to 96% in round 8. That is, in all rounds, the vast majority of women would have been better off if they had received the non-discriminatory return. The substantial increase in FD in round 8 indicates that the 1998 financial crisis impinged on women to a greater degree than men. Table 2 also reveals a clear pattern for the substantial MA: the male advantage declined from 94% in round 5 to 88% in round 7 before increasing to 90% in round 8.

The lower half of the table shows the percentage FD and MA relative to the non-discriminatory situation. The mean of the FD was 5.1% in round 5, decreases to 4.4%

in round 7 but increases to 6.4% in round 8. The MA remains between 4.4% and 4.7% until Round 8 when it jumps to 6.3%. However, increases in the standard deviation of both the FD and MA suggest that the wage distribution among women has become more uneven over time. In sum, the financial crisis in the second half of 1998 resulted in women suffering from a higher level of wage discrimination than before the crisis and in addition, the burden of the crisis was shared unequally within women.[13]

This latter observation concerning the gender wage gap over time suggests that there is a close relationship between economic conditions and the gender wage gap. The Russian economy experienced a rapid stabilisation during 1996. Annual inflation was reduced from 199.7 % in 1995 to 47.8% in 1996 when round 7 took place. These relatively favourable economic conditions might have provided a good opportunity for women to close the gender wage gap. By contrast, the 1998 crisis and ensuing recession impacted heavily upon the labour market, particularly women and their wages. Furthermore, as table 3 shows, men in the middle and upper percentiles of the wage distribution enjoyed the highest MA. It is also clear that women in the lower percentiles of the wage distribution experienced the highest FD in rounds 6 and 8 but it is less clear for rounds 5 and 7 in which the highest FD seems to be affecting the middle of the wage distribution (table 3). This indicates that the wages of female employees towards the lower end of the wage distribution are particularly sensitive to economic conditions in Russia.

4.2. The composition of the gender wage gap

International comparisons show that the gross log gender wage differential in Russia, which averaged 0.27 between 1994 and 1998 is higher than that of the UK where it is approximately 0.20 (Wright and Ermish, 1991). However, it is largely in line with the range of the gross wage differential in central and eastern European transition

[13] It is probable that the wage 'discrimination' experienced by women is not simply confined to that explained by human capital variables but also takes the form of occupational or workplace related discrimination. To the extent that this is true the FD and MA presented in tables 2 and 3 should be interpreted as the maximum.

economies. According to Pailhé (2000), the raw wage gap between male and female employees in 1993 is the lowest in Hungary (0.228) and the highest in Poland (0.298). However, table 4 shows that, in Russia, the extent of wage discrimination against women is higher than the gross wage gap, implying that women have a more favourable endowment than men but actually receive lower wages than men as a result of wage discrimination[14]. In contrast, in central and eastern European countries, only half of the raw wage gap is explained by wage discrimination.

Next, we analyse which sub-groups, in terms of education, age and regions had higher FD and MA with respect to the non-discriminatory structure. This will help us to illustrate which sub-groups were worse off in terms of wage discrimination. As table 5 shows, the low education sub-group faces the larger average FD and the lower MA. The most under-paid women in terms of FD are in the 'up to high school' and the vocational training sub-groups. In terms of FD, women are less under-paid in both the university/postgraduate education and technical/medical training sub-groups. In particular, women holding university/postgraduate education tend to have the least discrimination in both FD and MA in most rounds.

Another interesting question is whether wage discrimination is a cohort-related problem. Apart from round 8, wage discrimination after controlling for age is not as large as found when controlling by education. Differences in wage discrimination across various cohorts are modest in round 5 and round 7. However, the 18-34 year old women appear to be most vulnerable to negative economic shocks. Indeed, among all the age groups, the 18-34 group experienced the largest FD and MA following the 1998 crisis.

The largest variation in the gender wage gap among different subgroups is found between regions. This confirms a conventional observation that the Russian labour market is comparatively segregated across regions. Women in regions such as

[14] One plausible explanation for the closing of the endowment gap is that low qualified women are more likely to exit the labour market than more qualified women. Note that education explains half of endowment differences in round 7 and almost everything in the other three rounds.

Moscow/St. Petersburg (except for round 8), Volga-Vyatski and Volga Basin, and the Urals tend to have the largest FD. In contrast, women tend to be less underpaid in North and North-Western and Eastern Siberian and the Far East regions. Note that during the 1998 crisis, both the FD and MA are lower in Moscow/St. Petersburg than in any previous years. This reflects the fact that male wages in this region decreased more substantially than women's wages did: male wages decreased by 11.6% while women's wages declined by 8.3% in 1998.

4.3. The gender wage gap, wage arrears and income in kind

We now turn to an analysis of whether, across gender and income percentiles, there is a positive or negative correlation between wage discrimination and wage arrears/wages in kind. A negative association would suggest that wage arrears were allocated amongst female employees according to the principle of equity, that is, those with the lowest wages were not also made to suffer by experiencing delays in wage payment. In contrast, a positive correlation will be found if an employer allocates wage arrears to women who are less educated or skilled and thus subject to higher levels of wage discrimination.

Tables 6 and 7 show a very consistent and interesting pattern. Except for the top and bottom 10% of the female wage earners in 1998, women with wage arrears experience at most the same FD but usually less than women with no wage arrears. In a similar way, apart from round 5, male advantage is lower for male employees who suffer from wage arrears. These findings suggest that managers were responding more strongly to equity considerations in their wage allocation decisions among female employees,[15] whereas the MA is much higher for those workers *without* arrears.

[15] One can argue that women with arrears could have higher wages and thus lower wage discrimination in the current period if their wage includes an element of repayment from previously experienced arrears. In other words, some parts of wage arrears were repaid to more women in the current period and thus women who had wage arrears faced less wage discrimination compared to women who did not have wage arrears. However, this explanation is difficult to apply to situations where the stock of wage arrears continued to climb during the period under investigation. Specifically, over 60% of workers experienced wage arrears in rounds 5 and 6 but this figure grew to more than 70% in rounds 7 and 8.

The RLMS data reveals that there are more men experiencing wage arrears than women. For example, 44% of women suffered wage arrears in round 5 compared to 56% of men. The data also suggests that women have been experiencing shorter periods of arrears than men. In other words, wage arrears were used to bolster women's position against men who enjoyed wages above their endowment levels. It would appear that, in Russia, during this period, wage arrears - occurring with greater propensity and persistence amongst men than women - were a mechanism enabling women to be compensated for their loss from high wage discrimination. More precisely, our previous finding implies that, within female employees, wage arrears were allocated towards women tending to experience less wage discrimination.

Tables 8 and 9 also show that women who received wages in kind have both lower FD and MA than women who did not receive payment in kind except for sub-groups of women located towards the lower end of the income distribution. In sum, both wage arrears and payment in kind decrease both the MA and the FD, and hence reduce the gender wage gap. That is, wage arrears and payment in kind appear to act as "compensating" mechanisms offsetting, at least partially, the gender wage differential. This result is in line with the evidence provided by Earle (1999) who, among other things, found that the probability of arrears and the magnitude of wage arrears depend positively on being a male. Furthermore, it does not contradict Friebel and Guriev's (1999) association of in kind payments with the 'attachment' strategies of firms.

5. Conclusions

In order to analyse gender wage differentials, we first estimated cross section wage equations using traditional human capital characteristics as regressors and correcting for selectivity bias where necessary. Based on these, we uncovered an average gender wage differential that remained reasonably stable during 1994-1996 before increasing dramatically following the financial crisis in 1998. In particular, female employees at the bottom of the wage distribution were hit harder by the financial crisis. The gender

wage gap is not explained by differences in endowments or characteristics. On the contrary, Russian women actually benefited from a closure of the gender gap in observable characteristics. However, we found that this positive effect was more than offset by the difference in returns to these characteristics.

Additionally we found that workers at lower percentiles of the wage distribution experienced substantially larger female disadvantage, less male advantage and more dispersion across years. In contrast, workers at higher percentiles experienced relatively less female disadvantage and more male advantage. Overall, less educated women, aged between 18 and 34 were subject to a higher gender pay gap and proved to be distinctly more vulnerable to negative economic shocks such as the financial crisis of 1998.

Finally, we found evidence that both wage arrears and payment in kind have helped limit the gender wage gap, acting as a compensation mechanism for women who experience a higher differential. Amongst women, wage arrears appear to have been allocated to those in *more* favourable labour market situations. This suggests that managers of Russian enterprises and organisations considered the principle of equity as one of the more important criteria in allocating wage arrears among female employees. Even so, women suffering wage arrears in the bottom income decile failed to enjoy such compensation: clearly, the principle of equity has limits as these were not treated favourably during the allocation of wage arrears.

The above conclusions must be interpreted with caution because they depend on the specification of the wage equation. We have not controlled for 'unobserved' characteristics such as entrepreneurial responsibilities, attitude towards work, etc. Another problem that needs to be properly addressed is the decline in formal sector employment and the increase in informal sector employment. We partially address this problem when testing for selectivity bias, although a proper account requires the application of conditional probit equations in either a sequential or a simultaneous framework. These issues as well as the study of regional wage disparities are interesting lines for further research.

Table 1

Definition of Variables

Variable	Mean (Rounds 5 to 8)		Definition
	Male	**Female**	
Demographic Characteristics			
Age	38.52 (10)	38.17 (8.7)	Males: 18-59; Females: 18-54
Primary Employment			
Lnrwrlm	2.80 (1.03)	2.54 (0.97)	Gross average real hourly wages in primary job
job tenure	6.86 (8.32)	7.57 (7.84)	Job tenure in current primary job
Human Capital Controls			
Postgraduate	0.01 (0.12)	0.009 (0.1)	Postgraduate university education
Undergraduate	0.20 (0.40)	0.24 (0.43)	Undergraduate university education
Technical & medical	0.16 (0.37)	0.34 (0.47)	Technical and Medical School
Vocational training	0.27 (0.45)	0.16 (0.37)	Vocational Training (PTU, FZU, FZO)
High school	0.26 (0.44)	0.19 (0.40)	Complete high School education (11 years)
Incomplete high school	0.08 (0.28)	0.05 (0.21)	Incomplete high school education (8 years)
Occupation Type			
Managers & officials	0.03 (0.16)	0.02 (0.13)	Legislators, senior managers & officials
Profession & technicians	0.21 (0.41)	0.50 (0.50)	Professionals, technicians & associated professionals
Non-manual	0.07 (0.26)	0.23 (0.42)	Clerks, service workers & market workers
Manual	0.58 (0.49)	0.13 (0.34)	Agriculture, fisheries, plant & machine operators, crafts & related trades
Unskilled	0.09 (0.29)	0.12 (0.32)	Unskilled occupations
Region and Settlement Type			
Town	0.78 (0.42)	0.77 (0.42)	Urban areas
Rural non agriculture	0.05 (0.22)	0.66 (0.24)	Villages where the majority of people are not engaged in agriculture
Rural agriculture	0.17 (0.38)	0.16 (0.37)	Villages where the majority of people are engaged in agriculture
Moscow, St. Petersburg	0.12 (0.33)	0.12 (0.32)	Moscow, St. Petersburg
Northern&NorthWestern	0.08 (0.26)	0.08 (0.27)	Northern and North Western
Central&Central Black-Earth	0.19 (0.39)	0.20 (0.40)	Central and Central Black-Earth
Volga-Vaytski&Volga Basin	0.16 (0.37)	0.17 (0.38)	Volga-Vaytski and Volga Basin
North Caucasian	0.11 (0.31)	0.09 (0.29)	North Caucasian
Ural	0.17 (0.38)	0.17 (0.38)	Ural
Western Siberian	0.09 (0.29)	0.09 (0.28)	Western Siberian
EasternSiberian&Far-Eastern	0.08 (0.27)	0.09 (0.28)	Eastern Siberian and Far-Eastern
Other Variables			
Payment in kind	0.10 (0.30)	0.08 (0.28)	Received goods in lieu of payment in last 30 days
Wage arrears	0.40 (.49)	0.38 (0.49)	Owed money by enterprise at time of interview
Sample Size			
	4,361	4,608	

Standard deviations are reported in parenthesis.
Source: RLMS Rounds 5-8.

Table 2

Summary statistics of the female disadvantage (FD) and male advantage (MA)

	Round 5		Round 6		Round 7		Round 8	
	FD	MA	FD	MA	FD	MA	FD	MA
Difference in Returns								
Mean	0.147	0.143	0.134	0.133	0.125	0.136	0.142	0.156
Median	0.147	0.152	0.126	0.145	0.123	0.142	0.126	15.7
Maximum	0.359	0.377	0.462	0.341	0.338	0.365	0.637	58.0
Minimum	-0.106	-0.138	-0.032	-0.207	-0.203	-0.228	-0.078	-0.281
Std dev	0.073	0.086	0.025	0.089	0.099	0.142	0.098	0.128
% positive	96.5	93.6	90.6	90.9	88.2	88.1	96.3	90.1
Differentials (%)								
Mean	5.1	4.6	5.1	4.7	4.4	4.4	6.4	6.3
Median	5.0	5.0	4.6	5.0	4.5	4.9	5.8	6.6
Maximum	12.1	12.4	19.4	13.0	12.1	12.1	37.8	29.1
Minimum	-3.2	-5.7	-6.4	-10.0	-8.9	-8.9	-4.1	-18.0
Std dev	2.5	2.8	4.2	3.3	3.7	3.7	5.0	6.6

Table 3

Female disadvantage (FD) and male advantage (MA) according to income percentiles

	Round 5		Round 6		Round 7		Round 8	
Cum. sample share (%)	FD	MA	FD	MA	FD	MA	FD	MA
10	4.3	3.4	8.0	5.0	2.2	-1.2	10.6	6.0
20	6.3	4.2	7.4	4.3	3.2	1.1	8.4	6.1
30	5.8	4.4	6.7	4.9	3.4	2.7	7.7	6.2
40	5.6	4.4	6.8	4.8	4.1	3.3	7.9	6.2
50	5.5	4.6	7.0	5.0	4.7	3.7	7.8	6.6
60	6.8	4.8	6.1	5.4	5.0	4.2	7.4	6.8
70	5.5	4.8	5.9	5.1	4.8	4.6	7.2	6.9
80	5.4	4.6	5.6	5.0	4.7	4.6	7.0	6.8
90	5.2	4.7	5.3	4.9	4.6	4.6	6.7	6.8
100	5.0	4.7	5.0	4.7	4.5	4.7	6.2	6.4

Table 4

Average decomposition of difference in ln hourly wages

	RLMS 5	RLMS 6	RLMS 7	RLMS 8
Total difference in log earnings	0.279	0.261	0.246	0.280
Endowment differences	-0.011	-0.006	-0.015	-0.018
Regions	-0.001	0.002	-0.005	0.002
Age	-0.001	-0.003	-0.002	-0.003
Education	-0.009	-0.005	-0.008	-0.017
Difference in returns	0.290	0.267	0.261	0.298
Female disadvantage	0.147	0.134	0.125	0.142
Male advantage	0.143	0.133	0.136	0.156

Table 5

Decomposition of female disadvantage (FD) and male advantage (MA) by endowment

	Round 5		Round 6		Round 7		Round 8	
	FD	MA	FD	MA	FD	MA	FD	MA
All	5.1	4.6	5.1	4.7	4.4	4.4	6.4	6.3
Education								
High school	6.2	4.5	7.0	3.9	6.0	3.8	9.3	6.2
Vocational training	8.5	4.3	10.7	5.7	4.6	2.6	7.4	4.6
Technical-medical	3.7	7.4	2.9	5.5	3.6	6.7	5.1	8.9
University/Postgrad	3.9	4.0	3.9	3.9	4.5	5.2	4.6	5.7
Age								
Age between 18 and 34	6.6	4.3	7.6	6.0	5.0	3.8	10.4	9.3
Age between 35 and 44	5.8	6.5	4.8	5.2	3.8	4.7	5.4	5.3
Age between 45 and 55	5.1	4.6	5.1	4.0	4.8	4.3	5.6	4.6
Region								
Moscow, St. Petersburg	6.7	5.0	6.5	5.2	4.1	3.5	4.1	2.0
Northern and North Western	1.4	0.3	3.8	2.7	0.7	0.4	6.3	7.3
Central and Central Black-Earth	5.8	4.2	4.3	3.1	2.8	2.9	6.7	5.7
Volga-Vyatski and Volga Basin	7.0	6.1	7.4	6.7	5.8	5.2	6.9	5.4
North Caucasian	5.1	2.0	11.6	7.5	2.5	1.7	11.1	10.3
Ural	5.9	4.8	7.4	6.8	9.3	8.2	10.8	8.1
Western Siberian	5.6	4.2	4.2	3.2	5.1	5.4	3.8	1.9
Eastern Siberian and Far-Eastern	6.0	6.2	-0.4	-1.8	-2.7	-3.7	5.6	5.9

Table 6

Female disadvantage according to wage arrears (%)

	Round 5		Round 6		Round 7		Round 8	
Cum. Sample share (%)	No wage arrears	Wage arrears	No wage arrears	Wage arrears	No wage arrears	Wage arrears	No wage arrears	Wage arrears
10	5.5	5.3	8.8	8.3	3.1	1.6	9.9	11.0
20	6.2	5.0	7.9	6.5	3.8	2.3	8.5	8.1
30	6.2	5.1	7.4	6.0	4.3	2.5	8.5	7.1
40	5.9	5.1	7.3	5.4	4.9	2.9	8.4	6.8
50	5.7	5.1	6.7	5.7	5.3	3.7	7.8	7.1
60	5.7	5.2	6.2	5.5	5.2	4.3	7.5	6.9
70	5.5	5.2	6.1	5.2	5.0	4.3	7.0	6.8
80	5.5	5.2	5.8	5.1	4.9	4.2	6.8	6.8
90	5.3	5.1	5.5	4.7	4.9	4.2	6.4	6.5
100	5.1	4.9	5.2	4.4	4.7	4.1	5.9	6.1

Table 7

Male advantage according to wage arrears (%)

	Round 5		Round 6		Round 7		Round 8	
Cum. sample share (%)	No wage arrears	Wage arrears	No wage arrears	Wage arrears	No wage arrears	Wage arrears	No wage arrears	Wage arrears
10	3.1	3.2	4.9	3.9	-1.1	-1.1	7.2	5.3
20	4.2	4.1	4.5	4.2	2.0	0.3	6.4	5.9
30	4.1	4.8	4.9	4.2	3.3	2.0	6.2	6.1
40	4.2	4.8	4.9	4.7	3.7	2.7	6.5	6.2
50	4.5	4.8	5.2	4.7	4.1	3.3	6.7	6.3
60	4.5	5.2	5.6	4.9	4.5	3.9	7.1	6.5
70	4.5	5.2	5.2	5.0	4.7	4.3	7.0	6.7
80	4.4	5.0	5.1	4.7	4.6	4.6	6.8	6.8
90	4.6	5.0	5.0	4.7	4.7	4.6	6.5	6.8
100	4.6	5.1	4.8	4.5	4.8	4.7	6.1	6.6

Table 8

Female disadvantage according to wages in kind (%)

	Round 5		Round 6		Round 7		Round 8	
Cum. sample share (%)	No wage in kind	Wage in kind	No wage in kind	Wage in kind	No wage in kind	Wage in kind	No wage in kind	Wage in kind
10	4.6	6.5	7.8	11.1	2.3	1.3	10.1	12.9
20	6.0	5.5	7.3	9.4	3.2	2.8	8.1	8.7
30	5.9	5.4	6.8	7.7	3.4	2.6	7.6	6.4
40	5.7	5.3	6.9	6.6	4.1	3.4	7.8	5.9
50	5.6	5.2	6.5	5.5	4.6	4.2	7.6	6.6
60	5.6	5.0	6.0	5.1	4.9	4.2	7.2	6.7
70	5.5	5.0	5.9	5.1	4.9	4.0	7.1	6.6
80	5.5	5.0	5.6	5.1	4.7	3.5	6.8	6.5
90	5.2	5.0	5.3	4.9	4.6	3.6	6.6	6.0
100	5.0	5.0	5.0	4.7	4.6	3.7	6.1	5.6

Table 9

Male advantage according to wage in kind (%)

	Round 5		Round 6		Round 7		Round 8	
Cum. sample share (%)	No wage in kind	Wage in kind	No wage in kind	Wage in kind	No wage in kind	Wage in kind	No wage in kind	Wage in kind
10	3.7	2.9	5.4	3.0	-1.3	-0.7	6.0	6.2
20	4.5	2.3	4.6	2.9	1.3	-0.4	6.4	7.2
30	4.6	2.6	5.1	2.3	2.9	0.2	6.4	5.7
40	4.5	3.0	5.0	2.3	3.4	1.7	6.4	5.8
50	4.8	3.3	5.1	2.8	4.0	1.9	6.7	5.5
60	4.9	3.6	5.6	3.3	4.3	2.7	7.0	5.5
70	4.8	3.9	5.2	3.8	4.6	3.1	7.0	5.8
80	4.7	4.1	5.1	3.6	4.6	3.5	7.0	5.8
90	4.7	4.3	5.0	3.6	4.7	3.7	6.8	5.9
100	4.7	4.6	4.8	3.6	4.8	3.8	6.5	5.9

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Appendix

Table 1

Probit equation estimation results for the male sample

	Round 5		Round 6		Round 7		Round 8	
	Coefficient	t- value	coefficient	t- value	Coefficient	t- value	coefficient	t- value
Constant	-2.300	-7.505	-2.253	-7.072	-2.000	-5.823	-2.656	-8.300
Age	0.100	5.986	0.100	5.634	0.076	3.996	0.114	6.380
age-squared	-0.001	-5.787	-0.001	-5.845	-0.001	-4.253	-0.002	-6.619
Town	0.344	4.944	0.372	5.344	0.406	5.459	0.343	4.809
Rural non agriculture	0.220	1.835	0.186	1.456	-0.089	-0.701	-0.131	-1.068
Rural agriculture	Omitted							
Postgrad	0.542	2.027	9.015	20.973	0.354	1.035	0.841	2.125
University	0.400	4.148	0.434	3.974	0.441	3.689	0.446	3.591
Technical & medical	0.337	3.405	0.239	2.180	0.473	3.888	0.405	3.347
Vocational training	0.282	3.222	0.212	2.182	0.189	1.708	0.336	2.997
high school	0.086	1.052	0.108	1.174	0.149	1.407	0.077	0.708
up to elementary school	Omitted							
Moscow, St Petesburg	0.385	3.035	0.331	2.343	0.503	3.266	0.129	0.813
Northern&North Western	Omitted							
Central&CentralBlack-Earth	0.167	1.489	--0.087	-0.732	-0.202	-1.624	0.068	0.545
Volga-Vyatski&Volga-Basin	0.053	0.472	-0.242	-2.062	-0.242	-1.931	-0.192	-1.538
North Caucasian	0.042	0.357	-0.140	-1.135	-0.254	-1.913	-0.329	-2.464
Ural	0.210	1.803	-0.117	-0.974	-0.024	-0.187	0.100	0.766
Western Siberia	-0.031	-0.250	-0.246	-1.880	-0.273	-2.012	-0.289	-2.114
EasternSiberia&Far Eastern	-0.089	-0.630	-0.325	-2.469	-0.583	-4.162	-0.015	-0.105
Married	0.201	3.146	0.455	6.254	0.320	4.079	0.413	4.184
Children	-0.026	-0.925	-0.075	-2.552	-0.027	-0.903	-0.073	-2.066
Elderly	-0.137	-2.869	--0.096	-2.079	-0.173	-3.382	-0.160	-3.302
Lambda	-0.521	-1.197	-0.355	-2.724	-0.308	-0.691	-0.764	-2.831
N censored	1126		1176		1355		1319	
N uncensored	1426		1214		964		1040	

t-values obtained from Huber/White/sandwich variance estimates

Table 2

Wage equation estimation results for the male sample
Dependent variable: ln hourly (gross) wage from main job

	Round 5		Round 6		Round 7		Round 8	
	Coefficient	t- value	coefficient	t- value	coefficient	t- value	coefficient	t- value
Constant	1.946	5.848	2.594	5.768	1.719	4.066	3.690	3.977
Age	0.037	2.165	0.002	0.108	0.026	1.240	-0.041	-1.184
age-squared	-0.001	-2.380	-0.000	-0.228	-0.000	-1.436	0.000	0.971
Town	0.700	9.102	0.640	7.200	0.789	7.406	0.609	4.671
rural non agriculture	0.629	4.794	0.421	2.673	0.645	3.608	0.854	4.482
rural agriculture	Omitted							
Postgrad	0.589	3.074	0.112	0.534	0.192	0.755	0.104	0.211
University	0.412	4.706	0.266	2.233	0.434	3.183	0.180	0.995
technical & medical	0.194	2.014	0.074	0.633	0.257	1.769	-0.043	-0.239
Vocational training	0.043	0.469	0.052	0.470	0.070	0.512	-0.210	-1.308
high school	0.097	1.117	0.102	0.697	0.226	1.727	-0.068	-0.463
up to elementary school	Omitted							
Moscow, St Petesburg	0.016	0.147	0.157	1.203	0.212	1.378	0.062	0.371
Northern&North Western	Omitted							
Central&CentralBlack-Earth	-0.413	-4.153	-0.327	-2.875	-0.300	-1.979	-0.413	-2.601
Volga-Vyatski&Volga-Basin	-0.641	-6.311	-0.443	-3.864	-0.553	-3.666	-0.576	-3.578
North Caucasian	-0.448	-3.901	-0.157	-1.201	-0.230	-1.414	-0.094	-0.514
Ural	-0.209	-2.108	-0.149	-1.324	-0.024	-0.158	-0.266	-1.656
Western Siberia	0.095	0.809	0.190	1.382	0.274	1.538	0.050	0.257
EasternSiberia&Far-Eastern	0.306	2.048	-0.030	-0.213	-0.210	-1.141	-0.104	-0.561
F	21.73				14.24			
R-squared	0.196				0.201			
N	1427		1214		965		1040	

t-values obtained from Huber/White/sandwich variance estimates

Table 3

Probit equation estimation results for the female sample

	Round 5		Round 6		Round 7		Round 8	
	Coefficient	t- value	coefficient	t- value	coefficient	t- value	coefficient	t- value
Constant	-5.068	-13.10	-4.678	-11.601	-4.686	-11.466	-3.953	-10.204
Age	0.254	11.333	0.233	9.967	0.223	9.209	0.196	8.582
age-squared	-0.003	-9.918	-0.003	-8.769	-0.003	-8.059	-0.002	-7.790
Town	0.156	2.231	0.239	3.383	0.368	5.122	0.236	3.464
rural non agriculture	0.072	0.596	0.266	2.196	0.250	2.093	0.023	0.205
rural agriculture	Omitted							
Postgrad	0.824	2.379	0.827	2.022	0.863	2.078	0.479	1.371
University	0.535	5.054	0.447	3.732	0.509	3.937	0.479	3.478
technical & medical	0.471	4.763	0.470	4.157	0.437	3.521	0.380	2.897
Vocational training	0.232	2.149	0.275	2.290	0.284	2.181	0.222	1.643
high school	0.249	2.501	0.096	0.850	0.143	1.156	0.020	0.150
up to elementary school	Omitted							
Moscow, St Petesburg	0.051	0.406	0.210	1.597	0.355	2.569	0.189	1.349
Northern&North Western	Omitted							
Central&CentralBlack-Earth	0.055	0.480	0.068	0.591	0.035	0.297	0.126	1.118
Volga-Vyatski&Volga-Basin	0.170	1.488	-0.061	-0.533	-0.219	-1.868	-0.154	-1.364
North Caucasian	-0.110	-0.905	-0.197	-1.589	-0.260	-2.032	-0.255	-2.056
Ural	0.176	1.512	0.164	1.407	-0.055	-0.460	-0.003	-0.022
Western Siberia	-0.157	-1.245	-0.181	-1.417	-.-0.111	-0.861	-0.279	-2.192
EasternSiberia&Far Eastern	0.091	0.724	0.016	0.123	-0.410	-3.087	-0.044	-0.340
Married	-0.068	-1.237	-0.151	-2.457	-0.207	-3.373	-0.100	-1.764
Children	-0.119	-4.005	-0.141	-4.666	-0.142	-4.508	-0.137	-4.251
Elderly	-0.129	-2.550	0.008	0.158	-0.045	-0.868	-0.095	-1.846
Lambda	-0.214	-2.241	-0.022	0.163	-0.062	0.224	0.043	0.268
N censored	1247		1281		1489		1507	
N uncensored	1392		1231		1040		1133	

t-values obtained from Huber/White/sandwich variance estimates

Table 4

Wage equation estimation results for the female sample
Dependent variable: log of hourly (gross) wage from main job

	Round 5		Round 6		Round 7		Round 8	
	Coefficient	t- value	coefficient	t- value	coefficient	t- value	coefficient	t- value
Constant	3.693	6.795	1.387	3.359	1.889	3.913	0.247	0.531
Age	-0.044	-1.716	0.032	1.423	0.235	0.921	0.053	2.248
age-squared	0.001	1.519	-0.000	-1.227	-0.000	-1.006	-0.001	-2.075
Town	0.545	7.837	0.569	7.478	0.495	5.468	0.636	7.452
rural non agriculture	0.613	5.130	0.448	3.510	0.350	2.519	0.635	4.646
rural agriculture	Omitted							
Postgrad	0.560	2.604	0.689	3.160	0.259	1.059	0.892	2.933
University	0.415	4.293	0.548	4.508	0.401	2.833	0.872	5.350
technical & medical	0.106	1.143	0.319	2.724	0.215	1.566	0.597	3.731
Vocational training	-0.042	-0.425	0.118	0.952	0.098	0.680	0.453	2.714
high school	0.062	0.651	0.249	2.049	0.184	1.273	0.384	2.288
up to elementary school	Omitted							
Moscow, St Petesburg	-0.295	-2.812	0.082	0.711	0.115	0.902	0.297	2.000
Northern&North Western	Omitted							
Central&CentralBlack-Earth	-0.638	-6.592	-0.346	-3.182	-0.362	-3.030	-0.302	-2.236
Volga-Vyatski&Volga-Basin	-0.937	-10.137	-0.633	-5.824	-0.702	-5.979	-0.533	-3.987
North Caucasian	-0.570	-5.213	-0.496	-4.125	-0.341	-2.691	-0.357	-2.404
Ural	-0.468	-4.716	-0.322	-2.989	-0.424	-3.577	-0.290	-2.127
Western Siberia	-0.118	-0.998	0.131	0.994	0.042	0.291	0.082	0.495
EasternSiberia&Far-Eastern	-0.074	-0.682	0.095	0.768	-0.019	-0.130	0.015	0.090
F			17.71		11.47		15.43	
R-squared			0.193		0.144		0.184	
N	1392		1232		1043		1136	

t-values obtained from Huber/White/sandwich variance estimates

Table 5

OLS regressions on the estimated residuals from the female and male wage equation

Females	Round 5		Round 6		Round 7		Round 8	
	coefficient	t-value	coefficient	t-value	coefficient	t-value	coefficient	t-value
Manager	0.236	0.789	0.331	2.224	0.561	3.045	0.050	0.198
Professional	0.116	2.075	0.141	2.542	0.114	1.947	0.056	0.843
Manual	0.205	2.629	0.302	3.962	0.313	3.732	0.263	2.938
Unskill	-0.147	-1.811	-0.028	-0.308	0.012	0.121	0.019	0.196
Wage arrears	-0.225	-4.029	-0.341	-6.252	-0.491	-8.888	-0.320	-5.773
Payment in kind	-0.117	-1.329	-0.140	-1.344	-0.092	-0.845	-0.321	-3.558
Constant	-0.013	-0.285	-0.016	-0.351	0.115	2.522	0.136	2.464
R-squared	0.034		0.056		0.091		0.059	
N	1354		1196		996		1062	

t-values obtained from Huber/White/sandwich variance estimates

Males	Round 5		Round 6		Round 7		Round 8	
	coefficient	t-value	coefficient	t-value	coefficient	t-value	coefficient	t-value
Manager	0.156	1.014	0.385	2.910	0.618	2.661	0.250	1.241
Professional	-0.027	-0.290	0.071	0.726	0.230	2.256	0.224	2.098
Manual	0.007	0.077	0.150	1.911	0.246	2.767	0.201	2.138
Unskill	-0.240	-1.947	-0.224	-2.007	-0.060	-0.482	-0.096	-0.787
Wage arrears	-0.242	-4.396	-0.352	-5.983	-0.403	-6.775	-0.391	-6.862
Payment in kind	-0.323	-2.905	-0.180	-1.622	-0.542	-4.969	-0.339	-3.874
Constant	0.108	1.329	0.024	0.329	0.043	0.505	0.091	1.021
R-squared	0.034		0.056		0.115		0.086	
N	1370		1150		893		948	

t-values obtained from Huber/White/sandwich variance estimates