Unemployment Risk, Precautionary Savings, and Moonlighting in Russia

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UNEMPLOYMENT RISK, PRECAUTIONARY SAVINGS, AND MOONLIGHTING IN RUSSIA

Alessandra Guariglia and Byung-Yeon Kim*~

Abstract

Using a panel of 3,039 Russian households over the period 1994-96, this paper tests the precautionary savings hypothesis and investigates whether multiple job holding attenuates the need for precautionary savings. A measure of earnings variability based on the subjective probability of primary job loss of household heads is used as a proxy for risk. We find that risk strongly affects savings, although this effect is limited to those households whose head holds only one job. These findings are robust to different measures of savings and model specifications, and highlight the role of moonlighting as a self-insurance mechanism that individuals can use to smooth consumption in the presence of fluctuating earnings.

Keywords: Precautionary savings, Earnings variability, Moonlighting.

JEL Classification: C23, D12, D91, E21, P20.

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Non-technical summary

The transition process in Russia since 1991 has resulted in a substantial increase in job insecurity. This paper analyses how Russian households react to this increased uncertainty surrounding their jobs. Economic theory suggests that in the presence of rising uncertainty, households can increase their savings for precautionary purposes. However, particularly in developing and transition countries, households are also likely to rely on other mechanisms to reduce risk. The widespread multiple job holding of Russian households can be considered as another self-protection strategy against job insecurity.

Using a panel of Russian households over the period 1994-96, we test the precautionary savings hypothesis and investigate whether multiple job holding attenuates the need for precautionary savings. The results show that higher uncertainty is associated with higher savings, although this effect is limited to those households whose head does not moonlight. This suggests that moonlighting can be considered as a self-insurance device that individuals use in alternative to savings to smooth consumption in the presence of fluctuating earnings.

1. Introduction

Since the beginning of the transition, Russia experienced drastic changes, including mass privatisation, sky-rocketing inflation, and substantial declines in output[1]. As a result, the unemployment rate has risen from 4.8% in 1992 to 9.2% in 1996 (EBRD, 1998, p. 225). According to a survey of Russian adults conducted by the Russian Centre for Public Opinion Research (VTSIOM) in March 1996, more than 35% of the Russians perceived that the loss of their main job was a likely scenario in the near future. This suggests that, due to increasing unemployment risk, households' earnings became highly uncertain[2]. In this context, an interesting question is how Russian households react to this increased uncertainty surrounding their jobs.

In Western economies, individuals are likely to react to volatile earnings by accumulating savings as a cushion. Many studies have tried to assess the extent to which, in the presence of uncertainty, households save for precautionary reasons (see Browning and Lusardi, 1996, for a survey). The results of this research have been however quite inconclusive, with some studies finding a strong precautionary savings motive, and others finding almost no evidence for it[3].

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[1] Output declined by 42% since 1990, and inflation varied between 130% and 2500% before stabilising at 10-22% in 1996-97 (European Bank for Reconstruction and Development, 1998, p. 544-45).

[2] Other sources of uncertainty faced by Russian households include wage arrears. See Lehmann et al. (1998) and Earle and Sabirianova (1999) for detailed analysis of the consequences of wage arrears.

[3] A number of studies on this topic have used US data (Carroll and Samwick, 1997, 1998; Dynan, 1993; Lusardi, 1998; Kazarosian, 1997). Guiso et al. (1992) and Lusardi (1997) have used the Italian Survey of Household Income and Wealth, while Banks et al (1994), and Merrigan and Normandin (1997) have analysed the British Family Expenditure Survey. Carroll and Samwick (1997, 1998), Kazarosian (1997), Banks et al. (1994), and Merrigan and Normandin (1997) found that precautionary savings can explain a significant share of wealth accumulation. Dynan (1993) found no evidence whatsoever of precautionary savings. Guiso et al. (1992) and Lusardi (1997, 1998) found that precautionary savings account for a small part of wealth accumulation.

In contrast, households in developing countries are in general less likely to save, in the presence of income uncertainty[4]. Recent research shows that, in such circumstances, households protect their consumption by relying on various informal risk-sharing arrangements with other families (i.e. reciprocal interest free credit, work-sharing arrangements, cost free loans of productive assets, and shared meals and childcare)[5]. In addition, individuals may have private mechanisms of risk reduction. For example, Kochar (1999) shows that in India, farmers react to negative shocks to farm income by shifting labour from farm to off-farm employment.

Households' rational behaviour to protect their consumption from negative income shocks is also expected in Russia, where multiple job holding is widespread and the informal economy is large[6]. Given the high level of uncertainty characterising it, Russia provides a unique opportunity to test the precautionary savings hypothesis[7]. A further interesting question arising is how multiple job holding affects precautionary savings. Individuals that hold multiple jobs in the official and/or the informal economy are protected against shocks to the earnings from their primary job. If the protection given by the additional job(s) is sufficient, then the need to use savings as a cushion against shocks to the earnings from the primary job is reduced. In this case, moonlighting can be considered as a self-insurance device that individuals can use in alternative to savings to smooth consumption in the presence of fluctuating earnings.

The objective of this paper is twofold. First, we test the precautionary savings hypothesis, looking at how Russian households' savings react to a measure of earnings

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[4] During the period 1984-93, the average saving ratios of the Sub-Saharan African countries were in fact only of 6.4%, compared to 27.6% for the East Asian and Pacific countries. For more evidence on the behaviour of saving ratios in developing countries, see Schmidt-Hebbel and Serven (1997).

[5] See Fafchamps (1992); Townsend (1995); and Jalan and Ravallion (1999).

[6] According to the VTSIOM survey conducted in September 1996, 15% of Russian adults hold more than one job. For an estimation of the size of the Russian informal economy, see Johnson et al. (1997).

variability based on the subjective probability of primary job loss of the household head. Second, we attempt to analyse the extent to which multiple job holding attenuates the need for precautionary savings.

We use data from the Russian Longitudinal Monitoring Survey (RLMS) for the years 1994 to 1996. In line with the results obtained in Guariglia and Kim (1999), we find that a higher variability of the head's primary job earnings is associated with higher household savings. Yet this effect turns out to be statistically significant only for those households whose head does not participate in the informal economy.

The rest of the paper is laid out as follows. In section 2, we describe the data used, provide some descriptive statistics, and illustrate our measure of earnings variability. In Section 3, we present our empirical results. Section 4 concludes the paper.

2. Main features of the data and descriptive statistics

The data.

The data used in this paper consist in rounds 5, 6, and 7 of the Russian Longitudinal Monitoring Survey (RLMS), corresponding to household and individual interviews held in the last quarters of 1994, 1995, and 1996 respectively. In round 5, a total of 3,973 households and 11,284 individuals were interviewed. The corresponding numbers in 1995 and 1996 were 3,781 and 10,648; and 3,750 and 10,465. The survey is meant to be representative of the whole Russian Federation. It contains detailed information on households' income and expenditure, as well as on individuals' demographic characteristics, education, and labour force activities, including those

[7] To our knowledge, the only existing study on precautionary savings in Russia after the transition is Guariglia and Kim (1999). In that paper, consumption growth variability is used as a proxy for risk.

related to the informal economy. Our empirical analysis is restricted to those households whose head is an employed, working-age civilian[8]. The age ranges considered are therefore between 18 and 59 for men, and between 18 and 54 for women, given the different retirement age for the two groups. The sample that we use in estimation is thus an unbalanced panel made up by 3,039 households.

Variable definitions and descriptive statistics.

We consider two different measures of savings. The first one is a direct measure, which is denoted by SAV1. It is obtained making use of the answer given by household respondents to the following question:

"Tell me, please, did your family in the last 30 days save any money?"

If the answer to this question is positive, then respondents (the savers) are asked the following:

"How many roubles did your family save in the last 30 days?"

The information that is provided in these questions only refers to positive savings. Dissaving in the form of decumulation of financial assets is not considered, which makes SAV1 censored at zero.

The second measure of savings that we use (SAV2) is obtained indirectly as the difference between total household net income, and expenditure on all goods and services, except consumer durables. The latter are broadly defined to include houses, land, vehicles, and building materials. These goods can be considered as savings

[8] We define the head of household as the household member with highest earnings, where earnings include monetary compensation, or compensation in kind from the main job, any additional job, and any activity in the informal economy.

because they yield a flow of consumption services (Paxson, 1992)[9] All the relevant income, expenditure, and saving variables are expressed in 1992 roubles.

Column 1 of Table 1 provides some descriptive statistics about the percentage of households that declared to have saved in the last 30 days (the savers). Column 2 provides data on the median amounts saved in the last 30 days by these savers (non-zero median of SAV1). We can see that on average, only about 10% of the households in our sample report positive savings. This percentage, as well as the median monthly savings of the savers are higher for those households with a young, highly educated head, who are richer both from an objective and a subjective point of view[10]. The percentage of households who save is also higher for those living in urban areas, and especially in Moscow and St. Petersburg. Column 3 of Table 1 reports the median savings, using SAV2 as an indicator. The median of SAV2 is generally negative, except for the households belonging to the highest per capita income quartile, and for those with head aged between 18 and 25. Like SAV1, SAV2 is higher for households whose head is richer, but contrary to SAV1, it does not appear to be higher for those households with the most educated head.

Column 4 of Table 1 provides information on the characteristics of those respondents who hold an additional job. According to our definition, a second job might be either an additional official job, or an activity in the informal economy.

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[9] About 58% of the households in our sample appear to have a negative SAV2. In order to check the reliability of the data, we compared the RLMS data with the official (Goskomstat) data from the Russian household budget survey. According to the RLMS, the percentage of people with negative SAV2 in the Moscow-St.Petersbourg area in 1996 was around 50%. This does not differ too much from the figure of 43% obtained using data from the Goskomstat for the city of Moscow and the Moscow Oblast' in the same year.

[10] Whether a household is rich from an objective point of view is based on whether it belongs to the highest real income per capita quartile. Whether a households is rich from a subjective point of view is based on the answer given by the household head to the following question (the wealth ladder question): "*Please imagine a nine-step ladder, where on the bottom, the first step, stand the poorest people, and on the highest step, the ninth, stand the rich. On which step are you today?*" We define

Therefore we classify an individual as holding multiple jobs if he/she answers yes to either of the following questions:

"Tell me please, do you have some other kind of work?" and

"Tell me please, in the last 30 days did you engage in some additional kind of work for which you got paid? Maybe you sewed someone a dress, gave someone a ride in a car, assisted someone with apartment or car repairs, purchased and delivered food, looked after a sick person, or did something else that you were paid for?"

In order to be classified as holding multiple jobs, an individual must also state that he worked a positive number of hours in the last 30 days in his additional job. We can see that the majority of people moonlighting can be found amongst the younger, more educated, richer groups[11]. The percentage of people holding more than one job is generally higher in urban areas, and particularly in the regions of Moscow and St. Petersburg, where it reaches 22.7%.

Measuring earnings variability

Our measure of earnings variability is similar to that used in Lusardi (1998). It makes use of the household's head reported perception of job loss risk. Job loss represents in fact a major source of uncertainty for respondents. Individuals are asked the following question:

"How concerned are you that you might lose your job?"

The possible answers that can be given are: very concerned, a little concerned, both concerned and not concerned, not very concerned, and not concerned at all. After

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as subjectively rich those households whose head feels he/she stands on one of the highest four rungs of the ladder.

rescaling these responses to 0-1, we can interpret them as a subjective probability distribution of the relevant event.

In Table 2, we report an ordered probit regression of these probabilities for the pooled data set on a set of personal, educational, and professional characteristics of the household head. The results are as one would expect: the subjective probability that a household head attributes to losing his/her primary job is an increasing function of age. It is lower for males and for people with a college degree, for workers who have subordinates, and for individuals who feel richer. It is higher for service and market workers, for people in the less skilled occupational categories (plant and machine operators and assemblers, unskilled workers); and for individuals living outside of the Moscow and St. Petersburg regions[12].

In this framework, an individual loses his primary job with a subjectively evaluated probability of p: in such case, he/she earns 0. With a probability of (1-p), the individual does not lose his job, and earns a real monthly wage of w (which includes both monetary payment and payment in kind)[13]. The individual's earnings from his/her primary job can thus be seen as a random variable, with expected value equal to (1-p)w, and variance given by $p(1-p)w^2$. Following Lusardi (1998), we use the latter as our measure of earnings variability, which we denote by VAR[14].

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[11] This is a peculiarity of the Russian case, because in Romania, for instance, it is poor households that are more likely to moonlight (Kim, 1999).

[12] Similar results were obtained running the same ordered probit regression separately for each round.

[13] This assumes that earnings do not change if the respondent does not lose his job, and that the unemployment replacement rate is equal to 0.

[14] Note that we do not use the respondents' subjective probability of job loss (p) itself as a proxy for uncertainty for the following reason. Suppose that an individual is certain that he will lose his job in the near future, due to the announced closing of the firm where he/she is employed. In that case, if the individual saves more, this extra savings should not be classified as precautionary. It is in fact

3. Empirical results

General specification

In our empirical specifications, we report regressions aimed essentially at assessing the extent to which households' saving decisions are affected by the variability of household heads' primary job earnings. The equations that we estimate take the following form:

$$S_{it} = f(X_{it}, Y^P_{it}, VAR_{it}) + v_i + v_t + e_{it} \quad (1)$$

S_{it} represents the monthly amount saved by household i in round t. We use in turn SAV1 and SAV2 as measures of savings. X_{it} represents a set of characteristics of household i (or household head i) in round t, that is assumed to affect savings. It includes a quadratic in age, and various demographic and educational variables, aimed at capturing the effects of differences in preferences. X_{it} also includes the household head's subjective economic ranking, given in terms of the wealth ladder question (see footnote 10), together with variables indicating his/her expectations about next year's financial situation. The latter variables are included to see whether Russian households save to offset future expected declines in income, in accordance with the life-cycle model. Y_{it}^P is a proxy for permanent income for the head of household i in round t. It is calculated, using the method outlined in Guiso et al. (1992), which takes into account cohort effects in income[15]. Y_{it}^P is included in our specification because there is

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according to the standard certainty equivalence model, that higher savings follow from an expected drop in the mean of future income (see Alessie and Lusardi, 1997, for an investigation of this issue).

[15] Y_{it}^P is calculated using the following procedure. First, a regression of household heads' net real monthly total earnings (Y_{it}) on age, age squared, educational dummies, occupational dummies, and regional dummies is estimated on the entire panel using a random-effects specification This equation can be expressed as: $Y_{it}(a) = Z_{it}\beta + \gamma(a_{it})$, where a_{it} is the age of respondent i at round t; Z_{it} is the above mentioned set of characteristics of individual i at round t (excluding age and age square), and γ is the quadratic function of age. Assuming that the maximum age at which people work is 59, the estimated measure of permanent income for an individual aged a_0 will then be, taking into account the cohort effects $Y^P_{it}(a_o) = Z_{it}b + (59-a_0+1)^{-1}\Sigma^{59}_{a=ao}c(a)$, where b and c indicate respectively the estimated

evidence that savings vary across levels of permanent income (Carroll and Samwick, 1997, 1998). VAR_{it} is the above described measure of earnings' variability for household head i in round t. v_i represents a household-specific error term: it can be viewed as the collection of factors not included in X_{it} that are specific to that household[16]. v_t represent a time-specific error term, while e_{it} is an idiosyncratic error term.

When SAV1 is used as a dependent variable, a selection bias due to the fact that not all households save emerges. This selection bias leads to inconsistent estimates of a simple random-effects regression of $SAV1_{it}$ on X_{it}, Y^p_{it}, and VAR_{it}. We therefore estimate equation (1) using a random-effects Tobit specification, where the lower limit is 0 (households do not save). When SAV2 is used as a dependent variable, we use a simple random-effects estimator[17]. Time dummies are included in all our specifications to take into account the time-specific component of the error term, v_t.

Regression results

The first results that we present are random-effects Tobit regressions where the dependent variable is $SAV1_{it}$. These results are reported in column 1 of Table 3. This first specification shows that our measure of earnings variability, VAR_{it} is statistically significant, confirming the existence of a strong precautionary motive for savings in Russia. Moreover, we can see that households with more dependent children tend to save less, while households who live in urban areas and whose head has subordinates

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coefficients of β and γ. For more details about this method, also see King and Dicks-Mireaux (1982). See Kazarosian (1997) for a similar application to a panel data set.

[16] One of these factors could be the family's attitude towards risk (risk preference). These factors would cause an omitted variable bias in the estimation of equation (1), if we did not account for the v_i component of the error term.

[17] All random-effects estimates are derived using the econometric computer programme STATA, version 6.

at work tend to save more. Educational variables do not have any significant effect on savings[18]. Households who feel they are in a higher rung on the wealth ladder save more, as well as households who expect their financial situation to improve in the next twelve months. There is no evidence of life-cycle savings, given that the coefficients in front of the two variables indicating whether the respondent expects his/her financial situation to be particularly bad or deteriorate in the next twelve months are not statistically significant[19].

Column 2 of Table 3 reports the results of a similar regression, where we replace VAR_{it} with two interaction terms: VAR_{it}*$JOB2_{it}$ and VAR_{it}*(1-$JOB2_{it}$), JOB2 being a dummy variable which takes value one if the household head has an additional job, and zero otherwise. The coefficient on the first (second) one of these interaction terms can be interpreted as measuring the effect of increased primary job earnings variability on the savings of those household whose head moonlights (does not moonlight). We can see that only VAR_{it}*(1-$JOB2_{it}$) is statistically significant. This shows that it is essentially the savings of those households whose head has only one job that are more sensitive to the earnings' variability of the head's first job[20]. This can be explained as follows. By holding multiple jobs, individuals manage to protect themselves against the fall in income that would occur in case of loss of their primary

[18] This confirms the results obtained by Denizer and Wolf (1998).

[19] The results obtained from the estimation of a random-effects Tobit model did not differ too much from those obtained from the estimation of a simple Tobit model on the pooled data. In the latter model, even allowing for heteroskedasticity–robust standard errors, the coefficient on VAR_{it} was still statistically significant.

[20] One could claim that this result reflects a wealth effect given that those individuals holding only one job are generally the poorest (see Table 1), who are likely to be more averse to risk and thus more keen to self-insure against it. However, we directly controlled for wealth in our estimating equation by including both permanent income, and the household head's subjective economic ranking given in terms of the wealth ladder question.

job. This reduces their need (and their household's need) to save for precautionary reasons[21].

Table 4 reports the results of a random-effects regression, where the dependent variable is $SAV2_{it}$. Once more VAR_{it} is statistically significant. As in the previous specification, we can see that $SAV2_{it}$ is lower the higher the number of dependent children in the household. $SAV2_{it}$ also appears to be higher for males. There is now a modest evidence of life-cycle saving behaviour, given that the coefficient in front of the variable indicating whether the household head thinks that he will not be able to provide his family with the main necessities in the next twelve months is marginally significant and positive. If the risk variable is replaced with its interactions with JOB2, we see that once again only VAR_{it}*(1-JOB2) is statistically significant, confirming the hypothesis that moonlighting plays an important role in attenuating precautionary savings.

Robustness to an alternative specification

In the estimation of a saving equation like (1), a further problem may arise: VAR is likely to be measured with error. In order to deal with this problem, we now estimate the following first-differenced variant of equation (1)

$$\Delta S_i = f(\Delta X_{it}, \Delta Y^p_{it}, \Delta VAR_{it}) + v_t + e_{it} \qquad (2)$$

All variables, both included and omitted, which represent individual or household characteristics, will be equal to 0 when they are differenced. Similarly, the time-invariant component of the measurement error associated with VAR_{it} will be

[21] Similarly, labour supply by other household members could also be seen as an insurance device against the head's earnings variability, because when two or more earners are present, they can pool risks. We have thus constructed a dummy variable ($MULEARN_{it}$) equal to one for multiple-earner households, and to 0 otherwise. Interacting VAR_{it} in turn with $MULEARN_{it}$, and (1-$MULEARN_{it}$), we

eliminated when we use ΔVAR_{it} as an explanatory variable[22]. We are therefore left with an equation in which it is essentially variations in perceived uncertainty that affects the changes in savings taking place from one year to the next. Among the ΔX_{it} variables with a sufficient (although generally small) degree of variation, we include changes in the number of dependent children, and in the number of earners in the household; and changes in the subjective economic ranking and educational qualifications of the household head[23]. The results of the least squares estimates of equation (2) are reported in columns 1 and 2 of Table 5. We only refer to the specification where savings are measured by SAV2, SAV1 being equal to 0 in the majority of cases. We can see that the coefficient on the Technical/Medical school variable is positive and statistically significant in all specifications, indicating that if an individual acquires a diploma from a technical or medical school, he/she is likely to save more. The coefficient on ΔVAR_{it} is also positive and statistically significant (column 1). In column 2, ΔVAR_{it} is replaced with ΔVAR_{it}*$JOB2_{it}$ and ΔVAR_{it}*(1-$JOB2_{it}$). Confirming the results obtained in Tables 3 and 4, we can see that only the latter variable is positive and statistically significant.

A further problem with the specification described above is that our measure of VAR_{it} is also likely to suffer from a time-variant measurement error which is unlikely to be eliminated when the variable is first-differenced. We therefore re-estimate equation (2) using a Generalized Method of Moments (GMM) estimator. The presence

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obtained, as expected, a positive and significant coefficient only on VAR_{it} *(1-$MULEARN_{it}$). See Lusardi (1998) and Guiso et al. (1992) for a similar analysis.

[22] For example, if household heads underreport the earnings from their primary jobs, VAR_{it} is likely to be measured with error. However, as far as household heads continue to underreport their earnings over the survey period, the first-differenced VAR_{it} is less likely to suffer from this type of measurement error.

[23] ΔY^{P}_{it} is also included in this specification. Differences in permanent income across rounds for the same individual are however mainly due to the individual's ageing, and are therefore unlikely to have any effects on his/her savings.

of the time-variant measurement error adds extra terms to the error terms in equation (2). Provided that the measurement error is serially uncorrelated, these extra terms will have an MA(1) structure. In such a case valid instruments for the ΔVAR_{it} terms will be $VAR_{i(t-2)}$. Since permanent income is also likely to be measured with error, we also instrument it using its own values, lagged twice as instruments[24]. Time dummies are included in all equations. We provide tests of the legitimacy of the instrument set.

The results of the estimates of equation (2) are reported in columns 3 and 4 of Table 5[25]. We can see that in column 3, only ΔVAR_{it} is positive and statistically significant, while in column 4 only ΔVAR_{it}*(1-JOB2) is precisely determined, confirming the results of the previous specification. The Sargan test does not seem to indicate problems with the instrument selection, or in general with the specification of the model.

We can conclude that according to all our results, risk significantly affects household savings, indicating that there is a strong precautionary motive for saving in Russia. These results are in line with those obtained by Guariglia and Kim (1999). Our evidence also indicates that moonlighting plays an important role in attenuating precautionary savings. Multiple job holding itself can thus be seen as a self-insurance device against shocks to one's primary job earnings.

4. Conclusions

In this paper, we have used the Russian Longitudinal Monitoring Survey for the years 1994 to 1996 to test the precautionary savings hypothesis, and to analyse the

[24] See Arellano and Bond (1991) on the application of the GMM approach to panel data. The program DPD by Arellano and Bond (1988) has been used in estimation. Note that the X_{it} variables are considered as exogenous.

extent to which moonlighting attenuates precautionary savings. We have chosen a measure of earnings variability, calculated making use of the subjective probability that household heads attribute to losing their primary job, as a proxy for risk. Our findings have suggested that there is strong evidence for a precautionary savings motive, which is however limited to those households whose head only holds one job. These findings were robust to different measure of savings and model specifications.

The need for precautionary savings is attenuated for the households whose head holds multiple jobs. By holding an additional job, the household heads can in fact protect themselves and their family against the earnings uncertainty that they face in their first job. Moonlighting can therefore be considered as a self-insurance device, alternative to savings, that individuals can use to smooth consumption in the presence of fluctuating earnings. A theoretical and empirical investigation of the direct effects of various types of uncertainties on multiple job holdings in Russia is therefore an important issue, which deserves further investigation, and is on the agenda for future research.

[25] The sample size is reduced by one year compared to columns 1 and 2. This is due to the use of two lags of some of the variables as instruments.

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Table 1: Savings and Multiple Job Holding by Personal Characteristics, Age, Education, and Other Characteristics

Variable	% saving[1]	Median amount saved by savers[2] (Roubles)	Median (Y-C+D) (Roubles)[3]	% holding more than one job
	(1)	(2)	(3)	(4)
All	9.69	2410.9	-811.9	14.26
Personal/household character.				
Male	10.42	2410.9	-571.9	15.95
Female	8.52	2382.3	-1100.1	11.56
No dependent children	11.01	2257.7	-633.2	12.92
One or more dependent child	9.04	2586.0	-915.9	14.91
Highest qualification				
College	11.48	3010.2	-716.6	17.86
Technical/Medical school	10.88	2257.7	-840.5	12.78
Vocational school	9.23	2586.0	-1028.9	14.63
High school	7.83	2320.0	-746.1	13.65
Less than high school	7.41	1807.1	-644.1	9.41
Age				
18-25	12.31	3011.8	75.15	14.99
26-30	11.91	2926.4	-73.55	16.27
31-35	10.41	2382.3	-519.84	14.61
36-40	8.33	3010.2	-979.89	13.96
41-45	6.63	2360.5	-1334.1	13.91
46-50	9.16	2257.7	-1241.5	12.76
51-54	14.29	2045.5	-1319.1	9.75
55-59	8.05	2421.8	-1362.3	12.54
Wealth				
First income quartile	3.99	941.26	-1808.2	11.24
Second income quartile	7.06	1808.0	-1248.0	11.96
Third income quartile	9.82	2257.7	-215.23	15.03
Fourth income quartile	17.90	3616.0	2106.2	18.80
Subjective ec. ranking<=5	9.17	2410.7	-895.45	13.95
Subjective ec. ranking>5	14.93	2586.0	-90.6	17.39
Other variables				
Has subordinates at work	13.47	3010.2	-969.5	16.22
No subordinates at work	8.37	2382.3	-756.1	13.53
Lives in urban area	10.49	2382.3	-728.65	15.30
Lives in non urban area	7.30	3010.2	-987.39	11.12
Lives in Moscow/St. Petersburg	14.21	2586.0	-490.03	22.68

Notes: [1] The percentage of households saving represents the proportion of households who answered yes to the question "*Tell me, please, did your family in the last 30 days save any money?*", over the total number of households who were asked the question.

[2] The figures in this column are calculated using the answers given by the relevant households to the following question: "*How many roubles did your family save in the last 30 days?*"

[3] Y represents total net household income; C is total expenditure; D is consumption in durables.

Table 2: Ordered Probit Regression for the Probability of Job Loss

Dependent Variable: probability of job loss	Coefficients	*t-statistics*
Personal characteristics		
Age	0.03	*2.29*
Age^2	-0.0003	*-1.80*
Male	-0.37	*-9.24*
Subjective economic ranking >5	-0.082	*-7.30*
Highest educational qualification		
College	-0.220	*-2.77*
Technical/Medical school	-0.105	*-1.46*
Vocational school	-0.065	*-0.93*
High school	-0.142	*-2.07*
Employment: general		
Tenure at current employer	0.003	*1.37*
Has subordinates at work	-0.122	*-3.06*
Employment: occupational classification [a]		
Professionals	0.07	*0.72*
Technicians, associate professionals	0.162	*1.61*
Clerks	0.219	*1.88*
Service and market workers	0.271	*2.53*
Skilled agric. + fishery workers	0.364	*1.55*
Craft and related trades	0.178	*1.76*
Plant & machine operators and assemblers	0.275	*2.67*
Elementary occupations (unskilled)	0.239	*2.19*
Region of residence [b]		
North, North West	0.196	*2.69*
Central Region	0.239	*4.06*
Volga	0.302	*4.97*
North Caucasus	0.387	*5.91*
Urals	0.349	*5.71*
Western Siberia	0.337	*4.92*
Eastern Siberia, Far East	0.474	*6.80*
Log likelihood function	-7241.26	

Notes: Sample period: 1994-96; sample size: 4933.
[a] Legislators, Senior Managers and Officials is the omitted category.
[b] Moscow-St. Petersburg is the omitted region.

Table 3: Random-Effects Tobit Estimates for SAV1

Dependent Variable: $SAV1_{it}$	(1)	(2)
Personal/household characteristics		
Age	-45.01	-69.94
	(-0.15)	(-0.23)
Age^2	-1.10	-0.84
	(-0.28)	(-0.21)
Male	1302.57	1307.94
	(1.46)	(1.46)
No. of earners in household	429.69	449.30
	(0.80)	(0.84)
No. of dependent children in household	-1379.8	-1390.62
	(-3.02)	(-3.03)
Highest educational qualification		
College	1385.01	1359.6
	(0.83)	(0.82)
Technical/Medical school	1395.15	1432.47
	(0.86)	(0.89)
Vocational school	824.46	954.06
	(0.52)	(0.60)
High school	-392.26	-367.39
	(-0.24)	(-0.23)
Financial variables		
Financial situation expected to deteriorate	382.80	346.68
	(0.46)	(0.41)
Financial situation expected to improve	2294.14	2262.58
	(2.54)	(2.49)
Expects not to be able to provide main necessities to his family in next 12 months	-815.78	-768.26
	(-1.0)	(-0.94)
Subjective economic ranking>5	918.77	927.33
	(3.47)	(3.48)
Permanent income (Y^P_{it})	-0.16	-0.163
	(-0.79)	(-0.78)
Other variables		
Lives in urban area	1594.69	1608.79
	(1.77)	(1.78)
Has subordinates at work	3237.73	3269.64
	(3.97)	(3.98)
Is owed money by employer	-189.83	-142.19
	(-0.25)	(-0.19)
VAR_{it} ($*10^{-4}$)	0.50	...
	(8.50)	
$VAR_{it}*(JOB2_{it})$ ($*10^{-4}$)	...	0.33
		(0.77)
$VAR_{it}*(1-JOB2_{it})$ ($*10^{-4}$)	...	0.50
		(8.54)

Notes: Sample period: 1994-96. Column 1: sample size: 4300, of which 3874 are censored at 0; $\chi^2(20)=213.26$. Column 2: sample size: 4270, of which 3847 are censored at 0; $\chi^2(21)=211.80$. The figures reported in parenthesis are the ratios of the coefficient estimates to the estimated asymptotic standard errors. Time dummies were included in all specifications. JOB2 is a dummy variable which takes value 1 if the household head has an additional job, and 0 otherwise.

Table 4: Random-Effects Estimates for SAV2

Dependent Variable: $SAV2_{it}$	(1)	(2)
Personal/household characteristics		
Age	204.44	226.30
	(1.07)	(1.18)
Age^2	-4.08	-4.33
	(-1.67)	(-1.76)
Male	1655.5	1682.7
	(2.78)	(2.82)
No. of earners in household	440.67	447.11
	(1.40)	(1.41)
No. of dependent children in household	-604.1	-579.86
	(-2.27)	(-2.17)
Highest educational qualification		
College	135.44	157.85
	(0.14)	(0.16)
Technical/Medical school	739.26	781.58
	(0.78)	(0.83)
Vocational school	-960.13	-1052.40
	(-1.06)	(-1.16)
High school	-1007.4	-966.0
	(-1.12)	(-1.08)
Financial variables		
Financial situation expected to deteriorate	-4.60	30.81
	(-0.01)	(0.08)
Financial situation expected to improve	-551.76	-460.80
	(-1.11)	(-0.93)
Expects not to be able to provide main necessities to his family in next 12 months	711.0	720.45
	(1.62)	(1.64)
Subjective economic ranking>5	-125.15	-147.41
	(-0.93)	(-1.09)
Permanent income (Y^P_{it})	-0.30	-0.31
	(-2.23)	(-2.27)
Other variables		
Lives in urban area	493.1	495.40
	(0.86)	(0.86)
Has subordinates at work	-734.38	-865.27
	(-1.50)	(-1.76)
Is owed money by employer	-264.20	-250.73
	(-0.67)	(-0.64)
VAR_{it} ($*10^{-4}$)	0.27	...
	(5.13)	
$VAR_{it}*(JOB2_{it})$ ($*10^{-4}$)	...	-0.029
		(-0.11)
$VAR_{it}*(1-JOB2_{it})$ ($*10^{-4}$)	...	0.25
		(4.79)

Notes: Sample period: 1994-96. Sample size: 4300 in column 1, and 4270 in column 2. The figures reported in parenthesis are the ratios of the coefficient estimates to the asymptotic standard errors. Time dummies were included in all specifications. JOB2 is a dummy variable which takes value 1 if the household head has an additional job, and 0 otherwise.

Table 5: Estimates of First-Differenced Equations for SAV2

	$\Delta SAV2_{it}$ (1)	$\Delta SAV2_{it}$ (2)	$\Delta SAV2_{it}$ (GMM) (3)	$\Delta SAV2_{it}$ (GMM) (4)
Personal/household characteristics				
Δ(No. of earners in household)	212.12	256.76	2726.4	2865.7
	(0.30)	(0.36)	(1.37)	(1.28)
Δ(No. of dependent children in household)	412.23	398.19	-4605.9	-4358.17
	(0.44)	(0.42)	(-0.87)	(-0.82)
Highest educational qualification				
Δ(College)	1933.46	1762.0	69308.0	72575.2
	(0.52)	(0.47)	(1.03)	(1.0)
Δ(Technical/Medical school)	7410.51	6657.09	13978.7	19767.2
	(3.01)	(2.69)	(0.36)	(0.52)
Δ(Vocational school)	-1914.2	-1941.9	20130.9	28146.1
	(-1.07)	(-1.08)	(0.65)	(0.78)
Δ(High school)	217.51	495.46	20194.0	23870.5
	(0.09)	(0.20)	(0.81)	(0.90)
Other variables				
Δ(Subjective econ. ranking>5)	-68.73	-110.27	-256.44	-235.93
	(-0.32)	(-0.51)	(-0.63)	(-0.56)
$\Delta(Y^{p}_{it})$	-0.031	-0.010	4.66	0.50
	(-0.06)	(-0.02)	(0.39)	(0.05)
$\Delta VAR_{it}(*10^{-4})$	0.39	...	0.77	...
	(3.68)		(2.09)	
$\Delta VAR_{it}*(JOB2_{it})(*10^{-4})$	...	-0.33	...	-1.28
		(-1.04)		(-0.23)
$\Delta VAR_{it}*(1-JOB2_{it})(*10^{-4})$	...	0.464	...	0.82
		(4.22)		(2.29)
Sargan/Hansen	...	...	0.791	1.30
p-value			0.374	0.255

Notes: Sample period: 1995-96 in columns 1 and 2; 1996 in columns 3 and 4. Sample size: 1874 in columns 1; 1855 in column 2; 1142 in columns 3 and 4. T-statistics are reported in parenthesis. Time dummies were included in all specifications. JOB2 is a dummy variable taking value 1 if the household head has an additional job, and 0 otherwise. Instruments in column 3: X_{it}, $Y^{p}_{i(t-2)}$, $VAR_{i(t-2)}$, $JOB2_{i(t-2)}$. Instruments in column 4: X_{it}, $Y^{p}_{i(t-2)}$, $VAR_{i(t-2)}*JOB2_{i(t-2)}$, $VAR_{i(t-2)}*(1-JOB2)_{i(t-2)}$, $JOB2_{i(t-2)}$. The time dummies were always included in the instrument set. Test statistics in columns 3 and 4 are asymptotically robust to heteroskedasticity. The Hansen/Sargan statistic is a test of the overidentifying restrictions, distributed as chi-square under the null of instrument validity. The p-value can be interpreted as the probability of generating the reported statistic under the null of instrument validity.