

*Perceptions of Economic Insecurity:
Evidence from Rural and Urban Workers in Russia, 1995-2004*

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Abstract

Deteriorating economic conditions associated with Russia's transition in the 1990s from a planned economy to a market-oriented economy adversely affected the vast majority of households. Few workers emerged unscathed. This study utilizes data from the nationally representative Russian Longitudinal Monitoring Survey to study perceptions of economic insecurity in Russia's transition and post-transition economy and investigate how these perceptions vary across urban and rural workers. We construct three measures in order to document perceptions of economic insecurity among Russian workers in 1995-1998, when economic conditions were deteriorating, and in 2000-2004, when economic conditions had stabilized. Our analysis indicates that perceptions of economic insecurity coincide with economic reality – perceptions of insecurity are higher during 'bad' times, and lower during 'good' times. While the negative impact of the transition was equally severe among workers in both rural and urban settlements, we find that the recovery process occurred more quickly in urban settlements. We find that in both types of locales, perceptions of economic insecurity vary by worker characteristics – perceptions of insecurity are higher among workers with less education, among women, among unskilled manual and workers employed by the state (teachers, nurses, and social workers). We find that differences in observed characteristics of rural and urban workers explain a relatively small part of the rural-urban perceptions gap, so the gap is largely due to different rates of economic recovery in rural and urban locales.

Key words: perceptions, economic insecurity, Russia, gender, rural-urban differences

JEL Classification: P36, P23, R2, I31

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1. Introduction

Deteriorating economic conditions associated with the transition from a planned economy to a market-oriented economy in the 1990s caused the vast majority of Russian households to fall into an ongoing condition of economic insecurity – “a chronic state or condition during which an individual or family has insufficient financial resources to satisfy basic needs and wants ...” (Rejda and Haley 2005, p.6). Sky-rocketing inflation and plummeting output combined to place firms in a position where timely and adequate wage payments were impossible to sustain. Unpaid leave and wage arrears became part of the adjustment strategy firms adopted to survive the transition (Desai and Idson 2000, Standing 1996). Official unemployment grew slowly,¹ but few households escaped the need to have family members participate in informal labor market activities (Guariglia and Kim 2006, Khotkina 2001, Maslova and Baranenkova 2004). The incidence of poverty rose to more than one-third of the population (Alexandrova *et al* 2006, Clarke 1999, Kolenikov and Shorrocks 2005), and health conditions deteriorated to levels unprecedented in peacetime (Field and Twigg 2000).

That few workers emerged unscathed in the transition process is widely documented, albeit initially based on the rather fragmentary and aggregated data available during the chaotic period of economic transformation. Preliminary evidence suggested that women shouldered much of the burden associated with changes in labor market conditions (Brainerd 2000, Newell and Reilly 1996, Standing 1996), and that workers living in rural regions fared better than average because they had direct access to food. More recently, studies utilizing data collected by the Russian Longitudinal Monitoring Survey (RLMS) provide more detail regarding how workers coped with adverse economic conditions imposed by transition (see, for example, Baltagi and Geishecker 2006, Deloach and Hoffman 2002, Gerry *et al*

¹ For a detailed discussion of the difference between official and actual unemployment, see Standing (1996).

2004, Guariglia and Kim 2003 2006, Kazakova 2007, Kolev and Pascal 2002, Mu 2008, Reilly 1999, Stillman 2006, Tekin 2004, Turunen 2004). To date, however, no study investigates perceptions of economic insecurity among workers during the tumultuous transition process, despite general recognition in the literature about the importance of perceptions in understanding behavior.² A specific aim of this paper is to analyze factors contributing to variation in perceived economic insecurity among Russian workers, and to gain better understanding of the sources of rural-urban differences in perceptions.

Why do perceptions of economic insecurity matter? Despite the paucity of studies focusing on perceived economic insecurity, numerous studies conducted in developed market economies find that perceptions of job insecurity not only have an adverse effect on workers' physical and psychological well-being, but also on their organizational loyalty and job satisfaction (Bertaux and Queneau 2002, Bohle *et al* 2001, Chirumbolo and Hellgren 2003, DeWitte and Naswall 2003, Naswall and DeWitte 2003, Sverke and Goslinga 2003).³ These studies suggest that perceptions of job insecurity translate into lower productivity and thus lower wages, an outcome investigated in some detail by Jeon and Shapiro (2004). Additionally, existing research indicates that such perceptions directly affect economic outcomes, such as employment, savings, and consumption (Becker *et al* 2005, Benito 2006, Manski and Straub 2000). Linz and Semykina (2007) find that, similar to studies conducted in developed market economies, perceived job insecurity among Russian workers is higher among those with less education

² While few studies focus on perceptions of economic insecurity (Dominitz and Manski 1997), or, somewhat more narrowly, on perceptions of job insecurity (Bohle *et al* 2001, Clark and Sacks 2004, Linz and Semykina 2007, Manski and Straub 2000), if one take perceptions to mean expectations, there is large theoretical literature describing the importance of expectations in economic decision-making, as well as a growing number of empirical papers which investigate the impact of expectations on economic outcomes (see, for example, sources cited in Chiarella *et al* 2007, Haider and Stephens 2007, Morwitz and Pluzinski 1996, Stephens 2004).

³ We note the growing empirical literature in the social sciences related to estimating the determinants of and outcomes associated with particular perceptions (Elman and O'Rand 2002, Ettner and Grzywacz 2001, Gondolf and Heckert 2003, Tekleab *et al* 2005, Waterman and Rouse 1999, Weitzer and Tuch 2005, Wirz and Atukeren 2005, Zalesny *et al* 1985). Similarly, the number of theoretical and empirical studies which investigate the link between perceptions and reality has recently expanded (Anderson and Slep 2004, Brocas and Carrillo 2005, Gondolf and Heckert 2003, Graham *et al* 2004, Hargittai and Shafer 2006, Levy-Garboua *et al* 2006, Santos-Pinto and Sobel 2005, Van den Steen 2004, Veenhoven 2001, Zabochnik 2004)

and those living in locales characterized by adverse economic conditions. Unlike these studies, however, among Russian workers, perceptions differ between men and women – perceived job insecurity is significantly higher among women – a finding similar to that reported by Clark and Sacks (2004). Furthermore, Linz *et al* (2006) document the fact that Russian workers’ assessments of their outside labor market opportunities are associated with very different outcomes for wage arrears. They find that workers with fewer outside options are more likely to experience wage arrears which may be due to their weaker bargaining power in negotiations with employers and lack of ability to use job change as a means to escape from the wage arrears trap.

We speculate that workers’ assessment of the different aspects of their economic insecurity which we consider in this analysis will have similar effects. Indeed, perceptions of economic insecurity are closely related to feelings of job insecurity and are thus likely to have unfavorable effects on workers’ well-being. Perceptions of economic insecurity will also likely influence consumption and savings decisions, and thus impact generally (adversely) on macroeconomic conditions. If perceptions reflect outcomes workers expect to experience in the future (Dominitz and Manski 1997), documenting perceptions of economic insecurity provides information regarding groups at risk. Such information facilitates design of appropriate policies to reduce adverse outcomes associated with economic insecurity. To design such policies, however, we need to know whether (how) perceptions of economic insecurity vary by location and socio-demographic characteristics, as well as over time as general economic conditions change (improve).

Within our analysis of economic insecurity, we focus on studying the differences in perceptions of rural and urban workers. Several studies document the fact that many of the households experiencing continued economic insecurity in Russia’s post-transition economy are located in rural settlements (Bogdanovskii 2005, Galbraith *et al* 2004, Kuhn and Stillman 2004, Mezhevich 2003, Mu 2006, Ovcharova and Pishnyak 2003, Wegren *et al* 2003). Mu (2006) finds, for example, that throughout the

1990s, Russia's rural households had lower income, fewer assets, and were more severely affected by wage and pension arrears and unemployment. Figure 1 illustrates rural-urban differences in household income, consumption, and unemployment in the transition and post-transition periods, clearly documenting the unfavorable conditions faced by individuals living in rural settlements.⁴ Unfortunately, detailed data documenting differential recovery rates in Russia's rural and urban locales are unavailable, precluding any systematic analysis of local economic conditions in the two types of settlements.⁵ However, the fragmentary data that we have suggest that perceptions of economic insecurity were likely rather different in rural and urban locales, which calls for separate analysis of perceptions among rural and urban workers.

In this paper, we construct a picture of rural-urban differences in the economic impact of Russia's transition based on workers' perceived economic insecurity. We use three measures constructed from nationally representative RLMS data to capture perceived economic insecurity: concerns about getting basic necessities, concerns about having valuable skills, and concerns about unemployment. We investigate whether perceived economic insecurity among Russian workers is higher when economic conditions are relatively bad (1995-1998), and lower when economic conditions are relatively good (2000-2004), and whether recovery from the transition process was occurring at a different pace in rural and urban regions. Another aim of this paper is to investigate which workers were most vulnerable to the transition process. We do this by analyzing variation in perceived economic insecurity among Russia's rural and urban workers due to variation in socio-demographic and work characteristics. Such analysis aids in identifying the categories of workers who were hardest hit by the transition and those who remain at risk. Moreover, we examine the sources of rural-urban differences in perceptions: whether the differences are due to rural workers being generally disadvantaged in terms of their observed characteristics (age, education, etc.) or other factors (such as local economic conditions).

⁴ We thank Ren Mu for providing the data that were used for constructing Figure 1.

Our analysis of perceived economic insecurity among Russian workers during the transition (1995-1999) and post-transition (2000-2004) periods proceeds as follows: section 2 provides a brief discussion of Russia's transition to highlight the economic impact of the changes that occurred. Section 3 describes the data and the three measures of perceived economic insecurity used in our analysis. Results of our descriptive and regression analyses, as well as the decomposition of rural-urban differences in perceptions are presented in section 4. Section 5 offers concluding remarks.

2. Economic consequences of Russia's transition

The general impact of Russia's transformation, described in detail in numerous studies (see for example Gaidar 2003, Klein and Pomer 2006, Welfrens and Gavrilencov 2000, World Bank 1996) is summarized in Table 1. Not only did real GDP and the share of industry in total employment fall substantially during the transition (1992-1999), the composition of GDP changed as well, as consumer sovereignty replaced planners' preferences. This is most evident in industry's share of GDP, which declined when central authorities discontinued purchases of machinery and equipment. Not until expanded production of consumer goods took hold did industry's share regain and surpass the pre-transition figure. Indeed, industrial (and agricultural) production fell in nearly all years of the transition; investment followed a similar path. Modest gains in output, productivity, and inflation abatement made by 1997 were undermined by the financial crisis of 1998. Official "registered" unemployment remained remarkably low; estimates of those actually without work, however, involve figures nearly twice as high (EBRD 2006, Standing 1996). Wage non-payment affected a substantial portion of the workforce (Desai and Idson 2000), and real wages and living standards (as measured by lower per capita food consumption, loss of job security, and increasing health problems) fell dramatically, especially among workers in sectors dominated by state ownership (education, health care, R&D).

In an otherwise rather dismal picture of economic activity, private sector production and

⁵ At best, official sources provide select statistics on prices, output and employment for Russia's agricultural sector, but the data are too aggregated to be of use in analyzing conditions facing workers in rural settlements. More detail data were collected from 3 villages between 1991 and 1999 by the Russian-American Village Project (Wegren *et al* 2003).

employment rose rather quickly, driven largely by the speed of Russia's mass privatization program. The positive spin is somewhat reduced by studies which link privatization to the fact that economic inequality and the incidence of poverty rose substantially during the transition (Milanovic and Kapstein 2000, Reza 2007, Wenig 2005).

Post-transition economic conditions (2000-2005) reveal improvements in all indicators, perhaps most noticeable is the growth in private consumption and gross investment.

2.1 Rural-Urban differences

While the general impact of economic transformation adversely affected the majority of Russian households, workers in rural settlements confronted conditions that were more severe and longer lasting than conditions confronted by workers in urban settlements (see Figure 1). The difference appears to be driven in part by policies adopted in the Soviet economy and in part by policies adopted during the transition.

The Soviet legacy of maximizing agricultural output regardless of cost considerations resulted not only in 'surplus' workers employed in agricultural-related production, but also in a significant portion of rural households living in areas where land quality is marginal. Both contributed to unprofitable agricultural production in Russia's newly-emerging market-oriented economy. Serova (1999) reports that 80% of the state-owned farms were unprofitable at the end of the 1990s, contributing to Bondarenko's (2000) estimate that over half of the rural population had incomes below minimum subsistence level and Krasil'nikova's (2000) finding that rural areas have the highest incidence of the very poorest. Moreover, a substantial contingent of surplus workers in rural settlements faced not only a shortage of alternative local employment options, but also encountered limited regional mobility because of household income and general (economy-wide) housing shortages (Mezhevich 2003).

Employment opportunities in rural settlements not linked to agriculture were limited in the Soviet economy, and given the Soviet legacy of an underdeveloped rural infrastructure and an aversion

to private land ownership,⁶ no real investment occurred in rural regions in the 1990s, so few new jobs were created. Using data collected from three villages, Patsiorkovski (2001) documents how the Soviet legacy, which contributed to deteriorating local conditions and limited labor mobility in the transition and post-transition economy, continues to adversely affect the economic security of all workers in rural settlements.

The higher incidence of poverty among individuals living in rural settlements⁷ is explained in part by rural-urban wage patterns. Bogdanovskii (2005) reports that agricultural wages in 1990 (before the transition began) were 95% of the average monthly wage, but by 2002, agricultural wages had fallen to 40% of the national average. Ogloblin and Brock (2005) estimate the rural wage at 10% below the official subsistence level,⁸ and find that among workers in rural settlements the gender pay gap is wider than among workers in urban settlements: female workers in rural settlements earn only 47% of what a man with similar skills earns.

Transition policies also contributed to rural-urban differences. Reformers hailed from urban areas and, according to Wegren *et al* (2003), focused on protecting, as much as possible, urban residents even if that meant discriminating against rural settlements in terms of financial and resource allocations. Sadayadak and Borkunov (2001) explain how price controls on food products created a ‘scissors’ phenomenon where the price differential between manufactured goods and agricultural goods did not favor individuals in rural settlements. Healey *et al* (1999) document the adverse consequences in rural settlements of transferring social services from former state-owned organizations to local authorities after privatization because of the inadequate tax base in rural areas and the absence of transfers from central authorities (Moscow) to rural areas to cover the provision of these services. This theme is

⁶ Despite emphasis on privatization, legislation restricted individuals’ ability to purchase rural land and required rural land be used for agricultural-related purposes. Therefore little incentive to invest in rural areas.

⁷ In absolute terms, because nearly three quarters of Russia’s population live in urban settlements (Goskomstat 2001), the majority of those falling below the poverty line live in urban settlements (Alexandrova *et al* 2006)

⁸ Wegren *et al* (2003) find that 30% households in rural settlements earn monetary incomes of less than one-half of the minimum subsistence level. They estimate rural poverty at 50-80% of the rural population (depending upon the income

developed more fully by Ovcharova and Pishnyak (2003).

While existing studies tend to focus on agricultural output and agricultural workers rather than workers in rural settlements, it is possible to extrapolate from the information provided. The picture appears to be one where the adverse impact of transition was more severe and longer lasting in rural areas in comparison to urban areas, in part because of policies adopted in the Soviet economy and in part because of transition policies. Our objective is to flesh out the picture a bit more using perceptions of economic insecurity among workers in both urban and rural settlements.

3. Data description and measures of perceptions of economic insecurity

3.1 Data description

Data for our analysis of perceived economic insecurity were obtained from Phase II (rounds VI-XIII) of the Russian Longitudinal Monitoring Survey (RLMS).⁹ Since our focus is on members of the civilian labor force,¹⁰ we use two criteria to establish strong attachment to the civilian labor force.¹¹ First, in response to the question about their “main occupation,” individuals selected “employed,” “on official childcare or maternity leave,” or “unemployed, actively looking for work;”¹² and, second, they reported holding a primary job coded according to the four-digit International Standard Classification of Occupations (ISCO) that is consistent with an employee working in a civilian enterprise.¹³ The sample was restricted to workers of ages 15-65, and, among those, if variables used in our regression analysis (socio-demographic data, job characteristics, local unemployment rate) were missing, the

measure used), compared to an estimate reported in *Pravda* (25 November 2002) that overall about 30% of the Russian population live in poverty.

⁹ The survey rounds were conducted in 1995, 1996, 1998, 2000, 2001, 2002, 2003, and 2004 (no survey was conducted in 1997 or 1999). We thank Charles Petrin for constructing the data set used in our analysis.

¹⁰ Given mobility and other constraints not typical of the rest of the working population, individuals who reported themselves as working for the military in any capacity were excluded. Moreover, while other researchers have elected to drop individuals in the RLMS who are not officially “working age” (18-60 years old for men and 18-55 years old for women), we have elected to keep younger workers who meet the employment criteria, and have only dropped those older workers who are over age 65 years.

¹¹ Ambiguity regarding labor force participation emerges from the fact that respondents give different responses to similar questions, making no one question a sure-fire signal of employment status.

¹² Excluded are the categories of students, housewives, and retired (and no longer working).

¹³ Excluded are individual (private) farmers, senior government officials, artists and entertainers, fashion models, religious leaders, and so on, who have rather atypical performance criteria to meet in highly specialized labor markets.

observation/respondent was dropped. We also excluded observations where all measures of perceived economic insecurity were missing. The resulting sample contains 33,054 observations: 8,605 in the rural and 24,449 in the urban sub-sample.

The summary statistics for the final sample are displayed in Table 2. As seen in the Table, the respondents were on average 38 years old, and more than half were women. Approximately 50% of urban respondents had some university-level training, while more than 60% of rural workers reported secondary school or vocational training as their highest education level. The proportion of managers and professionals is significantly greater among urban workers, as is the proportion of workers employed in skilled occupations. In contrast, rural workers are more likely to hold jobs in semi-skilled and unskilled manual occupations. A large fraction of rural workers live in the North Caucasian and Central and Central Black-Earth regions, while urban workers more commonly reside in the Volga-Vyatski and Volga Basin region, and in the Urals region. Changes in worker characteristics over time are relatively minor.

Because RLMS is a longitudinal survey, it is possible to track at least some workers over time. Nevertheless, we refrain from using panel data methods in our regression analysis. One reason is that RLMS data do not comprise a true panel. Whenever respondents moved from their original dwellings, they were dropped from the survey rather than followed (and included in their new location).¹⁴ To replace the dropouts, interviewers attempted to conduct interviews in the same dwellings that fell into the original sample, thus keeping the sample approximately equally representative in each given year. However, any type of analysis that seeks to utilize the panel properties of the data is likely to suffer from attrition biases, which are harder to address in a nonlinear estimation setting like ours. Moreover, panel data methods do not permit estimating the effects of the variables that do not change over time. Much of our interest lies in the investigation of factors which are either time-invariant (gender, region) or change little over time (education, marital status, occupation). Estimating the coefficients of these variables in a

panel data setting is either problematic or impossible. Therefore, in our regression analysis, we use pooled estimation methods, but account for correlation between observations within each individual unit by computing fully robust standard errors.

3.2 Measures of economic insecurity

We use three measures to capture perceptions of economic insecurity. The first focuses on concern about getting basic necessities. Respondents were asked: *How concerned are you about the possibility that you might not be able to provide yourself with the bare essentials in the next 12 months?* and given a scale where 1 = ‘very concerned’ and 4 = ‘not concerned at all.’ For convenience, we call this variable NECESS.

The second focuses on whether one has skills appropriate for jobs in a market-oriented economy. To capture concern about having marketable skills, respondents were presented with the following: *Consider this statement – is it like you or not: “It seems to me that I have few of those qualities that are valued in the economic situation of today.”* Respondents were given a scale from 1 to 4, where 1 reflects few valued skills, and 4 reflects many valued skills. We call this variable VALUED.

Our third measure of perceived insecurity addresses concerns about unemployment. Two questions are used to construct a composite measure. Respondents were asked: *How concerned are you that you might lose your job?*¹⁵ and *Imagine this not very pleasant scene: the enterprise or organization where you work, for some reason will close tomorrow, and all workers will be laid off. How certain are you that you will be able to find work, no worse than your present job?*¹⁶ We call this composite measure UNEMPL and define it so that it takes on values 1 through 4. That is, the value of the composite measure is 1 if the respondent is concerned about losing job (job loss question is answered by selecting 1 or 2) and is uncertain about finding a new job (find job question is answered by selecting 1 or 2). The value = 2 if the respondent is concerned about losing job (job loss = 1 or 2) but

¹⁴As described on the RLMS website, the only exception was round VII, in which some households and individuals were followed.

¹⁵Respondents were given a 5-point scale, where 1 = ‘very concerned’ and 5 = ‘not concerned at all.’

fairly certain about finding a new job (find job = 3, 4 or 5). The value = 3 if the respondent is not seriously concerned about losing job (job loss = 3, 4 or 5) but is uncertain about finding new job (find job = 1 or 2). The value = 4 if the respondent is not seriously concerned about losing job (job loss = 3, 4, or 5) and is fairly certain about finding a new one (find job = 3, 4, or 5).

In summary, all three measures describe different aspects of economic insecurity. For each measure, lower values reflect adverse outcomes (fear, insecurity), and higher value reflects most favorable outcomes (confidence, security).

4. Analyzing Perceptions of Economic Insecurity

4.1 Descriptive Analysis

We begin our investigation of perceived economic insecurity by identifying workers who feel most vulnerable in the transition and post-transition environments. Figure 2 presents the percent of workers who feel most insecure by type of settlement for each measure of perceived insecurity. Workers in both rural and urban settlements were equally likely to express concerns about getting basic necessities during the transition period. The financial crisis in 1998 appears to have had a bigger impact on perceived job security among urban workers. Workers in rural settlements tended to have somewhat fewer worries about their skills. The post-transition recovery (2000-2004) clearly favors workers in urban settlements.

Table 3a identifies the percent of workers who feel most vulnerable by select worker characteristics and by type of settlement; table 3b presents the distribution by region and local economic conditions (as measured by the local unemployment rate). For all three measures, perceived insecurity is higher during ‘bad’ times (1995-1999) and lower during ‘good’ times (2000-2004), which suggests that perceptions among Russian workers do coincide with economic reality and not simply reflect a culture of negativism.¹⁷

¹⁶ Respondents were given a 5-point scale, where 1 = ‘absolutely uncertain’ and 5 = ‘absolutely certain.’

¹⁷ Veenhoven (2001) finds that difficulties associated with the transition explain unusually low levels of happiness among Russians, rather than features of Russian national character.

Perceptions of economic insecurity vary by worker characteristics and local economic conditions. Perceived insecurity is higher among workers with less education, among women, among unskilled manual workers, and among teachers/nurses/social workers. Among workers in urban settlements, perceived insecurity is higher in locales where the local unemployment rate is highest (over 10%), but, somewhat surprisingly, among workers in rural settlements, perceived insecurity is higher when the local unemployment rate is lower ($< 6\%$).

The impact of transition (1995-1999) was equally severe on workers in rural and urban settlements; this is especially true for ‘concern about getting basic necessities’ and ‘concern about unemployment,’ and often true for ‘not have valued skills.’ Where significant differences between workers in rural and urban settlements are evident in ‘not have valued skills,’ workers in rural settlements have lower perceived insecurity about their skills.

Recovery from the transition (2000-2004) was much more evident among workers in urban settlements – perceived insecurity is lower among urban workers and this holds for both ‘concern about getting basic necessities’ and ‘concern about unemployment.’ For ‘not have valued skills’ there are fewer statistically significant differences in the conditional probabilities between rural/urban workers during this post-transition period, and findings associated with the transition period (rural workers with higher valued skills) is reversed – workers in rural settlements tend to express higher insecurity in the post-transition period.

On the basis of these distributions, we conclude that the transition hit some workers, particularly women, harder than others, and recovery from transition among workers in rural settlements (~25% of workforce) has not been as complete as among workers in urban settlements. The low priority accorded to rural settlements in Soviet times appears to remain so in Russian times.

While Tables 3a and 3b provide useful information about the groups of workers who feel most insecure, these estimates were computed for specific subgroups of the population, and therefore cannot

be used for evaluating the impact of a change in each particular characteristic on the perceptions of economic insecurity in the overall population. To be able to make such evaluations, we need to estimate conditional distributions. In that way, it will be possible to assess, for example, the partial effect of obtaining university-level training or additional firm-specific experience on perceptions of economic insecurity in the population of rural and urban workers.

4.2 Regression model

The most commonly used method for performing conditional analysis is the ordinary least squares estimator. This method was used, for example, by Dominitz and Manski (1997) and Manski and Straub (2000) for studying the determinants of economic insecurity in the U.S. However, these two studies used subjective probability of an adverse economic outcome (e.g. probability of a job loss) as their dependent variable. In our data, the responses to economic insecurity questions fall into pre-specified categories, which have no numerical meaning. Because our dependent variable encapsulates qualitative rather than quantitative information, a linear regression is not an appropriate estimation method in our case.

An alternative estimation strategy is to classify the responses into two groups (low levels of economic insecurity vs. high levels of economic insecurity) and use probit or logit to estimate the contribution of each factor to the likelihood of falling into the “risk” category. This approach was used, for example, by Schmidt (1999) and Elman and O’Rand (2002). Unfortunately, this method implies partial loss of information due to pooling several response categories into a single group. To make the most use of the available information, we choose to follow Linz and Semykina (2007) and use ordered probit analysis.

An important advantage of the ordered probit model is that it can be viewed as a generalization of a linear model. At the same time, it accommodates the specificities of our data (ordered response with qualitative information). Specifically, we model perceptions of economic insecurity as a linear function

of socio-economic factors:

$$y^* = x\beta + u, \quad (1)$$

where y^* is the level of confidence in own economic situation, x is a vector of factors that can help explain variation in perceptions of economic insecurity across individuals, such as age and amount of skills, and u is the error term. Although we do not observe y^* , we know the categorized responses, so that when the value of y^* is small, respondents describe their economic situation as very insecure, and when y^* is large, respondents describe their economic situation as completely secure. Under the assumption that the error term is distributed as standard normal, the model can be estimated by ordered probit, and the coefficients in the ordered probit regression are interpreted as partial effects of the corresponding factors on the perceived level of economic insecurity, y^* . Moreover, we can use estimated coefficients to obtain partial effects of each factor on the probability of observing a particular discrete response. It will also be possible to predict changes in perceptions of economic insecurity when two or more factors change simultaneously.

To avoid possible endogeneity problems, we specify the model in a reduced form, so that all right hand side variables are exogenous. Our descriptive analysis indicates substantial variation in perceptions of economic insecurity by general demographic characteristics, educational qualifications, job seniority, vocation type and region of residence. Therefore, as independent variables in our conditional analysis we use age, female dummy, marital status dummy, an interaction of female and marital status dummies, education, tenure, occupation and region dummies, as well as dummies for the year of observation.¹⁸ To allow for nonlinear and possibly highly non-monotonic relationships, both age

¹⁸ It is likely that worker's experience with current employer, as well as choice of occupation and region of residence, will be affected by perceptions of economic insecurity, as some workers may choose to change jobs and/or move to a different location if such an alternative seems more attractive in terms of economic security. However, these transitions take time to make, so at each particular moment in time, they can be regarded as given. This implies that region, tenure and occupation are contemporaneously exogenous in our equation, so the partial maximum likelihood estimator, which we employ to perform the analysis, is consistent.

Another reason for potentially endogenous responses is unobserved heterogeneity. If individual choice of occupation/employment and place of residence is correlated with unobserved worker characteristics, such as ability and personality traits, then our ordered probit estimates would contain a bias. Our region and occupation categories are defined very broadly, which makes their correlation with unobserved heterogeneity unlikely. Ability and motivation may still be

and tenure are specified as dummy variables for each particular age/tenure group. Education is grouped into education categories, as in Table 2 (secondary, vocational, and university-level training).

Although our data set is not a balanced panel, it contains repeated observations for a considerable number of respondents. Because individual responses are likely to be correlated across periods, we compute standard errors that account for such intra-cluster correlation at the individual level and hence are robust to possible time dependence.

4.3 Discussion of results: coefficients in ordered probit regressions

When we estimated equation (1) on the samples of rural and urban workers, the differences in coefficient estimates in the two equations were almost never statistically significant, except for the region and year effects. Therefore, here we report results from pooled regressions performed on the whole sample of Russian workers, where the set of explanatory variables includes a rural dummy and interactions of this dummy with region and year indicators.

Coefficient estimates from ordered probit regressions (Table 4) show that, other things being equal, perceptions of economic insecurity tend to be more common among rural workers in the reference region and year. The effects are rather strong when considering workers' concerns about providing for necessities and concerns related to unemployment. Rural-urban differences in the assessment of own skills appear to be small in the 1995, but increase slightly by 2000.

The relationship between the degree of concern about own ability to provide for necessities and age is non-monotonic. Holding other things constant, the least concerned are young people (15-24 years old) who have fewer family obligations and may still receive material support from parents. The most concerned are workers in 25-39 and 40-54 age groups, who are more likely to have dependents to take care of (e.g. children and/or parents). Similarly to descriptive statistics, our conditional analysis shows

correlated with tenure, and hence, there is a possibility that the estimated effects of tenure will suffer from the omitted variable bias. Because we were interested in knowing the general relationship between economic insecurity and tenure (even if we cannot be certain that this relationship is causal), we choose to keep tenure in our regressions. Dropping experience from the regressions had little impact on the estimated coefficients of other variables; the results were qualitatively unchanged.

that as individuals approach the retirement age, they tend to become less concerned about necessities. In contrast, perceptions of job insecurity and limited usefulness of own skills monotonically increase with age.

Other things being equal, married men tend to be more concerned about necessities than single men, while marital status appears to have a small beneficial impact on perceptions of economic insecurity among women in times of economic stability. Nevertheless, both married and single women fare significantly worse than married and single men. Gender differences appear to be large and persistent over time.

Perceptions of economic insecurity among workers with vocational education are roughly identical to perceptions of otherwise comparable workers with secondary education. Significant differences in perceptions emerge when considering workers with university-level training. These workers tend to be more confident in own skills and ability to provide for necessities. Similarly, having advanced training is associated with lower perceptions of job insecurity in pre-crisis and crisis years. On the other hand, it appears that in the environment of constantly changing economic conditions, having more firm-specific experience does not help to alleviate concerns about own economic situation. Workers with longer job tenure tend to perceive greater economic risks, particularly when asked about own ability to avoid unemployment.

Our ordered probit estimates indicate that perceptions of economic insecurity differ across occupations. Managers, professionals, skilled technicians, and workers in occupations involving monetary transactions (such as clerks and salespersons) tend to be more confident in own skills and ability to provide for necessities. However, perceptions of job insecurity are the lowest among teachers, nurses and social workers, whose jobs are typically funded through the federal budget and are not very competitive because of the low pay that does not adequately compensate for the amount of work associated with these jobs. Perceptions of economic insecurity tend to be the highest among unskilled

and semi-skilled manual workers. Semi-skilled manual workers are particularly worried about the possibility of facing unemployment.

With regard to general dynamics, perceptions of economic insecurity grew over the 1995-1998 period with a clear peak in the crisis year (Table 5). Conditional on workers having the same socio-demographic and work characteristics, an increase in concerns about own economic situation was somewhat greater in urban areas, although not significantly so. Following the economic stabilization in 2000, we observe a decline in perceived economic insecurity among workers residing in urban locales. Thanks to a reduction in wage arrears and overall improvement in macroeconomic conditions, urban workers' concerns about providing for necessities and anxiety related to a possibility of facing unemployment were alleviated; confidence in usefulness of own skills improved. In contrast, rural workers enjoyed only a short period of optimism. After an initial increase in confidence in providing for necessities and enthusiasm about own skills in the early 2000s, rural workers' perceptions of insecurity returned back to relatively high levels in more recent years. Their concerns about unemployment were rather stable, and did not demonstrate any improvement over time. It is evident that differences in perceptions of otherwise comparable urban and rural workers widened during 2000-2004, and if this tendency persists, the divergence will continue to grow.

4.4 Discussion of results: conditional distributions

The discussion of coefficient estimates in the previous section describes general *ceteris paribus* relationships between individual characteristics and the perceived level of economic insecurity, y^* . However, by looking at the coefficient estimates it is hard to comment on the magnitude of the effects, since y^* is not observed and its units of measurement are unknown.

To provide quantitative evaluation of the contribution of each factor to the variation in perceived economic insecurity, we estimate conditional response probabilities at different values of independent variables. For instance, to assess the amount of variation in perceived economic insecurity due to

different levels of education, we set education equal to a particular value – say, secondary education – for each respondent, while keeping all other characteristics at their original levels. We then use coefficient estimates and standard ordered probit formulae to obtain individual response probabilities (probability of being very concerned, a little concerned, and so on), conditional on having secondary education. Estimated individual probabilities were averaged in the sample in order to average out the effects of all other factors and obtain estimated conditional probabilities in the population. The procedure was repeated for more advanced education levels, as well as other worker characteristics. Partial effects of various individual characteristics on response probabilities are obtained by comparing estimated response probabilities at different values of conditioning variables.

To facilitate comparisons by settlement type, we estimate conditional distributions separately for urban and rural workers. Furthermore, to simplify the presentation of results and enhance comparability with our descriptive tables, we combine estimated response probabilities to obtain conditional probabilities of falling into a disadvantaged (“concerned”) group, where disadvantaged groups are defined as in Table 3. Also, we focus on a relatively narrow set of socio-economic factors that are of most interest: age, gender, marital status, educational qualifications, and job seniority. Estimated conditional probabilities are reported in Table 6.

In Tables 3 and 6, estimated probabilities are rather similar, which suggests that the estimates of economic insecurity by subgroups of population may serve as reasonably good approximations of partial effects of various characteristics on perceived economic insecurity. Nevertheless, several disparities are apparent.

The consequences of moving from one age category to the next are somewhat different in Table 6. For example, the estimated reduction in concerns about necessities when moving from 40-54 to over 54 age group is noticeably smaller in Table 6 (about 2 to 5 percentage points) than in Table 3 (4 to 10 percentage points). Similarly, conditional estimates suggest that being age 55 or over is associated with

slightly greater concerns about unemployment than being age 40-54, implying that beneficial age effects for the oldest age group in Table 3 are likely due to other observed characteristics.

Conditional analysis shows that relatively high levels of economic insecurity among married workers are mostly due to substantial concerns about own economic situation among married women. As seen in Table 6, gender differences are always in favor of men. The differences are particularly large when looking at the variation in anxiety related to providing for necessities and employment opportunities. In urban areas, the conditional probability of being concerned about necessities is estimated to be about 16 percentage points greater for single women than for single men. The corresponding gender difference is only slightly less in rural locales. When comparing gender effects conditional on being married, the most striking is the discrepancy in perceptions of job insecurity. In 1995-1998, the probability of being concerned about unemployment is estimated to be approximately 15 percentage points greater for married women than for married men, although the gender gap in perceptions declines over time.

The partial effect of education on perceptions appears to be relatively small. The probability of being concerned about own economic situation drops by only 2 to 4 percentage points when a person receives university education as compared to vocational-level training. The positive relationship between tenure and insecurity is also weak. Similarly to descriptive statistics, the probability of being concerned about unemployment and necessities tends to be higher among workers with more years of tenure, but the magnitude of the tenure effect is small.

In summary, conditional analysis shows that gains from having more education are relatively modest and there is little variation in perceptions of economic insecurity by tenure. However, the variation in perceptions by gender is substantial. Overall, the estimates reveal no important rural-urban differences in perceptions of job insecurity and concerns about necessities during 1995-1998. As macroeconomic conditions improve, the anxiety about own economic situation decreases, and it appears

to decline faster in urban areas than in rural ones.

4.5 Rural-urban differences in perceptions

In this section, our goal is to gain better understanding of the sources of rural-urban differences in perceptions. We address this issue by comparing the rural-urban perceptions gap that is predicted to emerge under various scenarios. We focus on three types of differentials: (i) overall predicted rural-urban difference in probabilities of being concerned, (ii) predicted rural-urban differential that would prevail if all workers (both rural and urban) resided in cities within the same region, and (iii) predicted rural-urban difference in probabilities that would prevail if all workers (both rural and urban) resided in cities within their reported region of residence.

The first type of differential identifies the overall gap in perceptions of rural and urban workers. The second differential helps to evaluate the rural-urban differences in perceptions that are due to differences in the observed characteristics of urban and rural workers. Finally, the third differential accounts for both differences in observed worker characteristics and variation in economic conditions across regions. Because the metropolitan areas of Moscow and St. Petersburg are very different, in economic terms, from the rest of the country, and because all of their population is urban, we exclude Moscow and St. Petersburg from our analysis of the rural-urban perceptions gap.

When estimating the difference in perceptions due to worker characteristics, we use Volga-Vyatski and Volga region as a region of residence. This was the reference region in our regressions and it was chosen for convenience. Estimating the gap in perceptions conditional on residing in another region produces very similar results. Furthermore, when estimating this type of gap, we set the unemployment rate equal to 9%, which is roughly the average in the sample.

Results are reported in Table 7. The estimates of the overall rural-urban gap indicate the lack of confidence in usefulness of own skills among urban workers during 1995-1998, and relatively high levels of concerns about necessities and unemployment among rural workers in years of economic

stability. These differences in predicted probabilities are similar to the ones displayed in Tables 3 and 6. Once the sample is limited to workers residing outside the metropolitan areas of Moscow and St. Petersburg, the estimated gap in perceptions decreases and in some cases becomes in favor of rural workers. This finding once again confirms that perceptions of economic insecurity tend to be lower in capital cities.

Rural-urban difference in predicted probabilities conditional on all workers living in urban areas within the same region is positive, albeit small. This implies that even if a representative rural worker moves to a city, s/he is predicted to have higher perceptions of economic insecurity than a representative urban worker because of differences in qualifications and socio-demographic characteristics. In particular, rural workers are disadvantaged because they tend to have less education and are more likely to hold jobs in unskilled and semi-skilled manual occupations. The small magnitude of the difference is partly due to small limited variation in perceptions by education level. The offsetting effects of other factors may also play a role. For example, the fraction of male workers is slightly greater in rural sample, which should put a downward pressure on the rural-urban gap in perceptions.

In a simulated experiment, where rural workers are assumed to reside in the cities within their reported region of residence, the gap in perceptions is positive in 1995-1998, which is in contrast to negative total rural-urban differences reported in the second row of Table 7. Most likely, the explanation lies in the fact that during economically unstable years, workers in urban areas tended to experience greater anxiety than workers in rural locales because the devastating impact of economic transition was more prominent in the cities.¹⁹ Thus, in 1995-1998, a rural worker would have higher perceptions of economic insecurity if s/he moved to a city. In contrast, moving to an urban area during 2000-2004 would substantially reduce or even eliminate the gap in concerns about necessities and unemployment

¹⁹ In the Soviet economy, persistent and pervasive shortages caused urban workers to hoard *defisitny* goods and engage in reciprocal exchange (Ledeneva 1998). In the chaotic years of Russia's transition, as production and employment arrangements adjusted, the nature and scope of relational capital changed, as did one's position in the network, leaving many without access to such basic necessities as food and medicine. Workers in rural settlements at least remained in close proximity to food.

between rural and urban workers. In other words, recent stabilization and improvement in economic conditions benefited urban workers more.

5. Conclusions

In this paper, we study the perceptions of economic insecurity among rural and urban workers in Russia. Using data collected by the Russian Longitudinal Monitoring Survey, we construct three measures of perceived economic insecurity to investigate which workers were most vulnerable to Russia's transition process and how overall economic conditions affect worker perceptions of economic insecurity in rural and urban settlements.

We find that perceptions of economic insecurity are substantial. More than 80% of Russia's workers in the 1990s were concerned about getting basic necessities and more than half felt they had few (if any) valued skills. We find that in both rural and urban areas perceptions of economic insecurity vary by worker characteristics. Workers with university-level training tend to feel more secure, and gender differences are significant – women's perceived insecurity is higher than men's. We find that perceptions of economic insecurity vary by local economic conditions – perceived insecurity is higher when local conditions (as measured by the local unemployment rate) are worse. We find that perceptions of economic insecurity during the transition period are essentially the same for workers in rural and urban settlements, but that in the post-transition economy, workers in rural settlements have higher perceived insecurity. Even though some part of the rural-urban difference in perceptions is due to variation in observed characteristics of workers residing in rural and urban locales, most of the rural-urban perceptions gap is due to variation in economic conditions between the two types of settlements. Indeed, the low priority assigned to rural economic development in the Soviet centrally-planned economy appears to be imposing negative outcomes more than a decade and a half later among workers in rural settlements in Russia's market-oriented economy.

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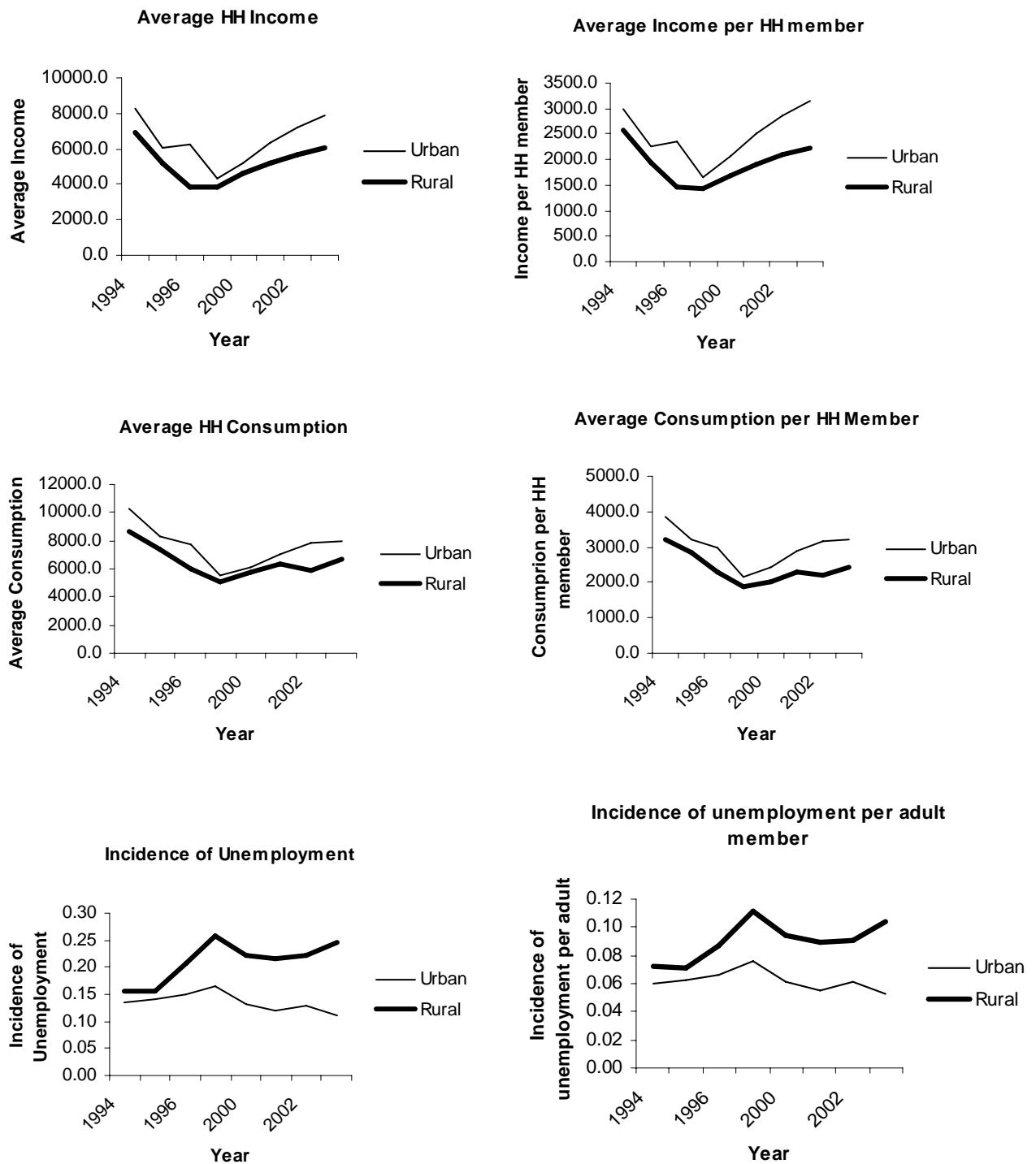
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Figure 1. Trends in Household Income, Consumption, and Incidence of Unemployment, by Settlement Type



Incidence of unemployment: the proportion of households that experienced new occurrences of unemployment by at least one household member compared to the previous survey round.

Table 1: Macroeconomic Transition Indicators: Russia

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Composition of GDP														
GDP per capita (\$)	565	1135	1867	2116	2656	2750	1802	1347	1789	2123	2377	2968	4019	5312
Share industry in GDP (%)	33.7	34.4	32.8	29.0	29.5	28.3	29.9	30.8	38.6	36.5	34.8	34.9	36.0	35.0
Share agric in GDP (%)	7.2	8.2	6.5	7.2	7.3	6.5	5.7	7.7	6.4	6.8	5.7	5.4	5.0	5.0
External debt/GDP (%)	--	--	3.6	6.4	36.7	44.6	70.4	90.3	61.6	49.3	49.2	46.4	38.6	35.0
Output (% change)														
Real GDP	-14.8	-8.7	-12.7	-4.0	-3.6	1.4	-5.3	6.4	10.0	5.1	4.7	7.3	7.1	6.4
Private consumption	-3.0	1.2	1.2	-4.6	-4.7	5.0	-3.4	-2.9	7.3	10.1	8.5	7.5	11.6	11.1
Public consumption	-11.8	-6.4	-2.9	1.1	3.1	-2.4	1.0	3.1	1.9	-0.8	2.6	2.2	2.1	1.8
Gross investment	--	--	--	-7.5	-21.2	-7.9	-12.4	6.3	21.5	10.3	2.8	12.8	11.3	10.5
Imports	--	--	--	16.6	1.3	0.4	-17.4	-17.1	31.5	18.7	14.6	17.7	22.5	16.2
Industrial output	-18.0	-14.1	-20.9	-3.3	-4.5	2.0	-5.2	11.0	11.9	4.9	3.7	7.0	8.3	4.0
Agricultural output	-9.0	-4.4	-12.0	-8.0	-5.1	1.5	-13.2	4.1	7.7	7.5	1.5	5.5	3.0	1.1
Employment														
Unemployment [% (year end)]	5.3	6.0	7.7	9.2	9.3	10.8	11.9	12.9	10.2	8.7	8.8	8.6	8.3	7.6
Share of Industry in Total Employ (%)	29.6	29.3	27.1	24.1	22.6	21.7	20.7	22.4	22.7	20.6	19.5	--	--	--
Labor Productivity in Industry (% change)	--	-11.9	-11.4	12.2	2.4	8.7	0.8	10.2	10.1	5.0	6.8	--	--	--
Private sector share in GDP (%)	25.0	40.0	50.0	55.0	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	69.0
Private sector share in Employment (%)	18.3	28.1	32.3	34.3	35.6	39.9	41.8	--	46.1	47.7	49.6	50.2	51.8	54.1
Prices, Wages (% change)														
CPI (annual average)	1526.0	875.0	311.4	197.7	47.8	14.7	27.6	86.1	20.8	21.6	15.7	13.7	11.0	11.3
PPI (annual average)	1767.9	941.9	337.4	236.5	50.8	15.0	7.1	58.9	46.6	19.2	14.0	15.6	24.0	21.1
Average monthly wage (annual average)	1005.4	904.7	277.3	94.6	67.3	22.1	14.8	42.7	42.5	45.7	34.5	24.8	24.0	25.3

Source: EBRD (2006), Rosstat (2006), CIA Factbook (various years).

Table 2. Summary Statistics.

Variable	1995-1998		2000-2004	
	Urban	Rural	Urban	Rural
Age	38.70 (11.41)	38.03 (11.01)	38.16 (11.52)	37.64 (11.23)
Female	54.46	50.26	54.94	52.82
Married	81.70	83.16	73.92	75.77
Secondary degree or less	17.12	20.84	14.10	21.43
Vocational-level training	32.75	44.23	34.06	42.38
University-level training	50.13	34.93	51.84	36.19
Tenure	8.07 (9.03)	7.78 (8.64)	7.32 (8.79)	7.38 (8.74)
Managers & professionals	16.49	7.42	16.99	10.06
Skilled technical & administrative	15.29	10.60	15.80	9.78
Clerical, sales, service	13.71	13.04	15.65	15.97
Teachers, nurses, social workers	9.46	10.87	8.91	10.69
Skilled manual	17.92	13.98	15.32	11.28
Semi-skilled manual	16.49	24.61	16.63	22.96
Unskilled manual	10.64	19.48	10.70	19.26
Northern and North Western	9.05	6.00	7.74	7.34
North Caucasian	7.58	24.61	6.27	21.03
Ural	18.08	9.55	16.56	10.93
Central and Central Black-Earth	15.70	28.62	15.74	26.39
Volga-Vyatski and Volga Basin	19.45	12.03	18.52	13.95
Western Siberian	7.18	10.25	7.01	11.84
Eastern Siberian and Far Eastern	10.28	8.96	10.31	8.53
Metropolitan: Moscow/ St. Petersburg	12.68	-	17.83	-
Local unemployment rate	10.54 (3.22)	11.60 (3.55)	8.06 (3.49)	8.90 (3.61)
Number of observations	7841	2869	16608	5736

Standard deviations in parentheses under the sample means.
Statistics for binary variables are reported in percent.

Figure 2. Percent of Workers Who Feel Insecure, by Type of Settlement and Year

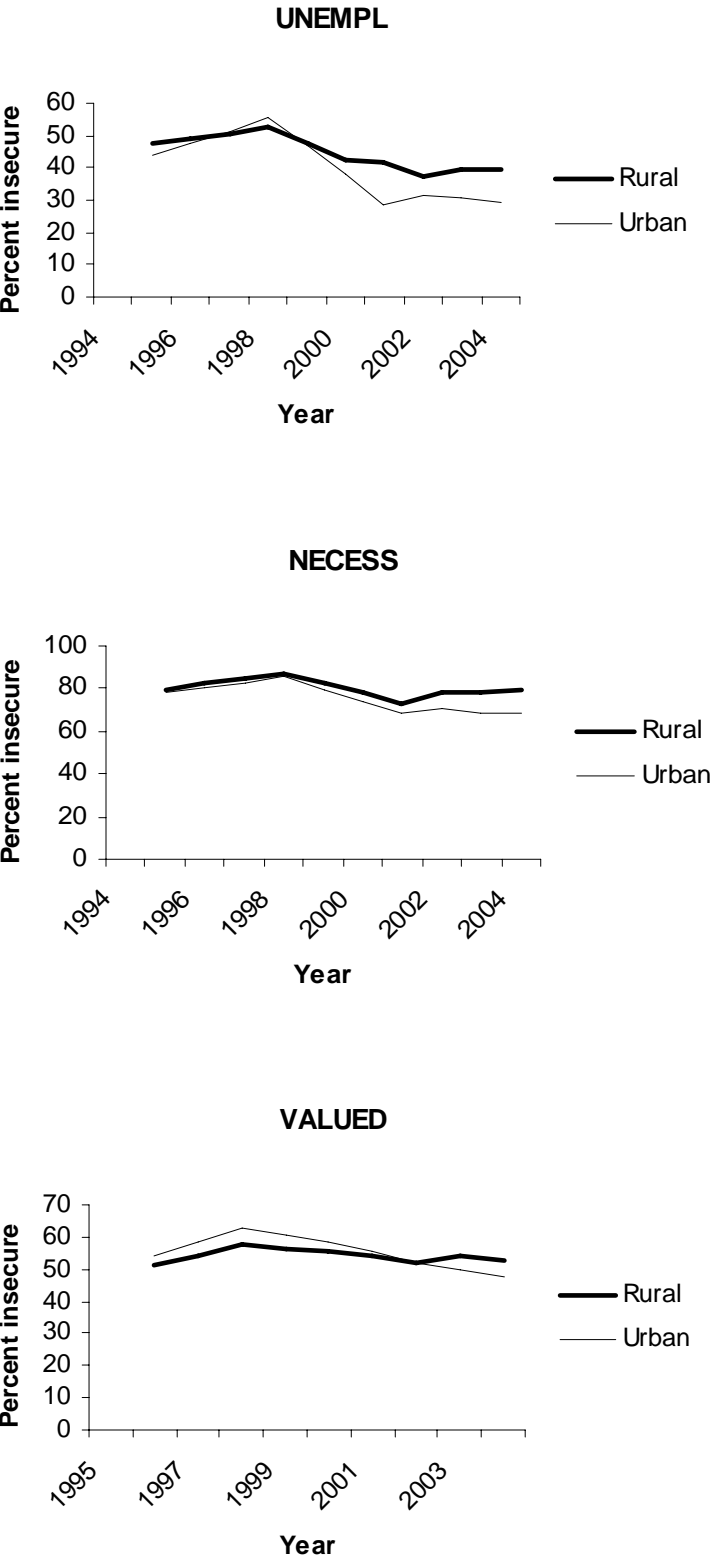


Table 3a: Percent of Workers Who Feel Most Vulnerable, Rural-Urban distribution, by worker characteristics, by period

	Concerned About Getting Necessities ¹				Does Not Have Valued Skills ²				Concerned About Unemployment ³			
	1995-98		2000-04		1995-98		2000-04		1995-98		2000-04	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Overall	82.87	81.57	77.66	69.96	54.52	58.55	53.66	51.61	49.65	48.98	40.23	31.36
Age at time of interview												
age 15-24	80.05	76.17	71.46	64.92	52.17	54.02	48.32	37.28	36.96	35.95	29.95	18.56
age 25-39	85.02	83.30	78.27	69.25	53.13	57.40	49.18	46.71	49.03	46.67	39.44	25.22
age 40-54	82.80	82.42	80.55	73.03	56.51	60.84	59.11	59.44	56.20	54.10	44.89	40.22
age over 54	76.98	78.93	69.97	67.89	57.14	60.16	58.47	62.36	45.78	55.11	38.41	39.64
Gender												
Male	80.23	78.20	75.15	65.84	50.75	52.99	51.66	46.02	42.44	41.85	35.40	25.79
Female	85.47	84.38	79.89	73.32	58.32	63.09	55.85	56.16	56.73	54.92	44.50	35.89
Marital status												
Married	83.15	82.27	78.25	70.44	54.29	58.48	53.13	50.81	50.37	49.13	40.29	31.35
Not married	81.46	78.40	75.80	68.59	55.64	58.82	55.30	53.60	46.05	48.33	40.03	31.40
Education												
secondary degree or less	87.39	82.82	78.84	72.28	56.52	62.19	58.24	54.19	54.42	52.49	41.94	32.48
vocational-level training	83.37	84.22	78.15	72.08	56.30	58.38	58.02	53.67	51.29	50.43	38.69	30.59
university-level training	79.52	79.40	76.38	67.93	51.42	57.50	46.29	49.64	44.79	46.87	40.99	31.55
Job tenure												
Less than 1 year job tenure	81.55	78.62	78.22	68.58	57.51	54.74	54.21	48.61	46.82	41.42	32.86	22.95
1-3 years job tenure	83.96	80.09	76.08	69.32	50.13	54.81	50.64	46.42	46.03	44.24	35.87	26.74
3-10 years job tenure	82.92	82.88	77.08	69.02	55.09	61.67	52.96	51.86	49.70	49.93	42.93	30.89
More than 10 years job tenure	82.57	83.30	79.12	72.96	55.58	60.85	56.50	58.95	54.26	56.13	46.38	42.49
Occupation												
managers & professionals	73.93	75.70	71.73	61.57	38.66	55.04	36.78	44.06	41.83	42.02	40.04	29.85
skilled technical & admin	80.86	81.71	76.96	67.43	52.05	53.06	47.38	45.17	50.34	50.26	40.11	33.20
clerical, sales, service	85.98	82.52	78.69	73.52	54.63	59.33	52.04	51.48	59.77	55.65	39.95	31.90
teachers, nurses, soc workers	84.29	83.06	83.82	74.63	58.03	68.14	53.63	60.23	45.39	45.56	45.50	29.09
skilled manual	81.95	81.70	75.00	68.94	51.33	56.96	50.68	53.82	46.07	45.96	38.37	28.49
semi-skilled manual	82.17	83.13	77.77	73.10	52.36	59.87	55.20	53.22	45.73	53.97	38.14	35.30
unskilled manual	86.00	85.25	78.22	74.48	65.73	62.45	67.74	60.80	55.49	50.31	41.07	30.31

¹ Respondents were included in this group if they were “very concerned” or “a little concerned”. Numbers in **bold** reflect statistically significant differences, at 5% or better, between rural and urban responses.

² Respondents were included in this group if they said that the statement “It seems to me that I don’t have many characteristics that are valuable in the current economy” “Exactly describes” or “may describe” them. This question was not included in surveys conducted in 1995, 1996 and 2001.

³ Respondents were included in this group if they were “very concerned” or “a little concerned” about the chance of losing their job, and if they were “absolutely uncertain” or “fairly uncertain” about finding a job if laid off.

Table 3b: Percent of Workers Who Feel Most Vulnerable, Rural-Urban distribution, by Period

	Concerned About Getting Necessities ¹				Does Not Have Valued Skills ²				Concerned About Unemployment ³			
	1995-98		2000-04		1995-98		2000-04		1995-98		2000-04	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Region												
Northern & North Western	86.05	78.01	75.06	69.93	56.41	58.44	66.03	53.16	48.26	46.13	30.71	24.60
North Caucasian	79.32	85.96	76.87	73.08	53.11	52.11	47.13	45.78	46.13	47.01	42.33	30.48
Urals	90.37	82.22	79.58	69.79	60.71	60.24	59.95	53.00	60.71	50.15	37.65	33.21
Central & Central Black Earth	75.43	83.39	74.93	71.01	47.18	62.02	46.28	57.36	39.47	54.88	30.70	34.09
Volga-Vyatski & Volga	89.96	84.22	79.62	72.14	65.59	60.04	68.67	55.55	59.51	53.79	50.34	36.90
Western Siberia	90.82	85.38	78.07	74.83	62.21	57.94	56.13	57.09	61.13	43.77	51.84	31.05
E. Siberia & Far East	87.80	82.23	84.02	71.88	51.22	57.29	45.58	45.66	55.10	52.25	44.30	32.68
Moscow & St. Petersburg		70.85		62.80	70.85	62.80				36.20		24.17
Local unemployment rate under 6%	88.89	82.67	75.08	65.22	75.00	58.78	46.58	47.53	66.67	55.41	29.51	25.85
Local unemployment rate 6-10%	79.21	78.43	76.82	71.34	46.15	54.20	59.06	53.22	42.86	41.72	41.30	33.56
Local unemployment rate over 10%	85.47	83.74	80.77	72.00	59.21	60.38	49.12	52.94	54.58	53.81	46.05	32.97

¹ Respondents were included in this group if they were "very concerned" or "a little concerned". Numbers in **bold** reflect statistically significant differences, at 5% or better, between rural and urban responses.

² Respondents were included in this group if they said that the statement "It seems to me that I don't have many characteristics that are valuable in the current economy" "Exactly describes" or "may describe" them. This question was not included in surveys conducted in 1995, 1996 and 2001.

³ Respondents were included in this group if they were "very concerned" or "a little concerned" about the chance of losing their job, and if they were "absolutely uncertain" or "fairly uncertain" about finding a job if laid off.

Table 4. Ordered Probit Estimates for Economic Insecurity: Effects of Worker Characteristics

	NECESS		VALUED		UNEMPL	
	1995-1998	2000-2004	1995-1998	2000-2004	1995-1998	2000-2004
Rural	-0.361*** (0.096)	-0.150** (0.065)	-0.050 (0.092)	-0.092 (0.067)	-0.213** (0.093)	-0.286*** (0.073)
Age 25 - 39	-0.209*** (0.042)	-0.163*** (0.029)	-0.072 (0.044)	-0.188*** (0.030)	-0.219*** (0.043)	-0.142*** (0.032)
Age 40 - 54	-0.188*** (0.045)	-0.240*** (0.031)	-0.166*** (0.048)	-0.463*** (0.033)	-0.364*** (0.047)	-0.385*** (0.034)
Age 55 and older	-0.089 (0.058)	-0.077* (0.045)	-0.197*** (0.064)	-0.587*** (0.046)	-0.378*** (0.060)	-0.404*** (0.047)
Female	-0.507*** (0.063)	-0.472*** (0.041)	-0.224*** (0.068)	-0.223*** (0.043)	-0.346*** (0.068)	-0.358*** (0.044)
Married	-0.183*** (0.052)	-0.182*** (0.035)	0.016 (0.058)	0.170*** (0.038)	0.043 (0.058)	-0.011 (0.038)
Married * Female	0.188*** (0.067)	0.248*** (0.045)	-0.037 (0.072)	-0.072 (0.047)	-0.069 (0.071)	0.091* (0.048)
Vocational-level training	0.017 (0.037)	-0.015 (0.028)	0.061 (0.043)	0.009 (0.030)	0.017 (0.037)	0.031 (0.030)
University-level training	0.149*** (0.039)	0.082*** (0.030)	0.123*** (0.045)	0.096*** (0.031)	0.126*** (0.039)	0.032 (0.032)
1 ≤ Tenure ≤ 3	-0.037 (0.035)	0.037* (0.022)	0.050 (0.042)	0.033 (0.025)	0.011 (0.035)	-0.051** (0.024)
3 < Tenure ≤ 10	-0.049 (0.036)	0.049** (0.024)	-0.044 (0.041)	-0.036 (0.027)	-0.055 (0.037)	-0.150*** (0.026)
Tenure > 10	-0.093** (0.040)	-0.015 (0.030)	-0.021 (0.045)	-0.048 (0.032)	-0.151*** (0.040)	-0.251*** (0.031)
Managers, professionals	0.323*** (0.055)	0.338*** (0.039)	0.215*** (0.060)	0.504*** (0.043)	0.199*** (0.055)	0.089** (0.042)
Skilled technical, administrative	0.200*** (0.050)	0.207*** (0.037)	0.236*** (0.057)	0.399*** (0.041)	-0.005 (0.051)	-0.055 (0.041)
Clerical, sales, service	0.188*** (0.051)	0.118*** (0.035)	0.149*** (0.058)	0.326*** (0.039)	-0.057 (0.052)	0.028 (0.039)
Teachers, nurses, social workers	0.162*** (0.062)	0.050 (0.047)	-0.009 (0.066)	0.224*** (0.048)	0.280*** (0.062)	0.202*** (0.050)
Skilled manual	0.087* (0.049)	0.107*** (0.037)	0.095* (0.055)	0.152*** (0.040)	-0.022 (0.050)	-0.059 (0.040)
Semi-skilled manual	0.029 (0.050)	0.014 (0.035)	0.028 (0.055)	0.181*** (0.038)	-0.112** (0.048)	-0.186*** (0.037)
Local unemployment rate	0.010* (0.006)	-0.015*** (0.005)	0.010 (0.006)	-0.008 (0.005)	-0.013** (0.006)	-0.027*** (0.005)
Observations	10660	22263	6283	16245	10195	20689

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

All regressions include region and year dummies, as well as interactions of these dummies with an indicator for rural type of settlement.

Reference categories: workers aged 15-24, workers with less than one year of tenure, workers with no postsecondary education, unskilled manual workers.

In all regressions, years 1997 and 1999 are excluded. In regressions for VALUED, years 1995 and 2001 are also excluded.

Table 5. Ordered Probit Estimates for Economic Insecurity: Year Effects

	NECESS		VALUED		UNEMPL	
	Rural	Urban	Rural	Urban	Rural	Urban
<i>Regressions for 1990s</i>						
1996	-0.071 (0.049)	-0.024 (0.028)	-	-	-0.035 (0.046)	-0.084*** (0.028)
1998	-0.232*** (0.057)	-0.314*** (0.039)	-0.262*** (0.056)	-0.271*** (0.041)	-0.138** (0.055)	-0.249*** (0.040)
<i>Regressions for 2000s</i>						
2001	0.189*** (0.042)	0.124*** (0.027)	-	-	0.001 (0.044)	0.181*** (0.027)
2002	0.069 (0.045)	0.112*** (0.028)	0.145*** (0.050)	0.137*** (0.030)	0.031 (0.046)	0.107*** (0.029)
2003	0.063 (0.045)	0.163*** (0.028)	0.039 (0.049)	0.153*** (0.029)	0.045 (0.047)	0.156*** (0.029)
2004	0.056 (0.045)	0.181*** (0.028)	0.055 (0.048)	0.229*** (0.030)	-0.037 (0.048)	0.148*** (0.029)

Robust standard errors in parentheses under the coefficient estimates

* significant at 10%; ** significant at 5%; *** significant at 1%

Coefficients are from the ordered probit regressions described in the footnote to Table 2.

Base years in NECESS and CJOBLOS regressions: 1995 and 2000

Base years in VALUD regressions: 1996 and 2001

Numbers in **bold** reflect statistically significant differences, at the 5% or better, between rural and urban coefficient estimates.

Table 6. Estimated Conditional Probabilities of Economic Insecurity, by Period and Settlement Type

	NECESS ¹				VALUED ²				UNEMPL ³			
	1995-1998		2000-2004		1995-1998		2000-2004		1995-1998		2000-2004	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Age 15-24	78.96	78.81	72.71	65.70	49.91	54.99	41.91	41.96	39.46	39.71	31.17	24.35
Age 25-39	84.18	84.19	77.72	71.34	52.71	57.76	49.01	49.19	47.66	48.00	36.15	28.90
Age 40-54	83.70	83.70	79.92	73.87	56.32	61.31	59.38	59.73	53.15	53.55	45.18	37.48
Age over 54	81.30	81.23	75.15	68.43	57.51	62.47	63.92	64.34	53.70	54.11	45.90	38.17
Single men	74.19	73.38	68.32	60.58	49.63	54.44	52.49	52.60	43.78	43.69	33.90	26.68
Married men	79.45	78.90	74.38	67.27	49.02	53.83	46.09	46.10	42.16	42.05	34.29	27.04
Single women	87.06	86.86	82.63	76.81	58.29	62.98	60.77	61.01	56.89	56.97	46.97	39.11
Married women	86.94	86.74	80.93	74.79	59.10	63.76	57.17	57.36	57.87	57.96	43.97	36.18
Secondary degree or less	84.47	84.92	78.38	72.53	56.77	62.35	54.61	55.54	52.05	53.33	40.70	33.44
Vocational-level training	84.08	84.53	78.80	73.01	54.43	60.08	54.28	55.21	51.40	52.68	39.55	32.35
University-level training	80.88	81.28	75.95	69.78	52.04	57.72	51.00	51.89	47.30	48.54	39.54	32.34
Less than 1 year job tenure	81.83	81.74	78.23	71.93	53.71	58.97	52.51	52.92	47.88	48.42	35.16	28.16
1-3 years job tenure	82.72	82.66	77.17	70.71	51.76	57.04	51.27	51.67	47.48	48.02	36.99	29.85
3-10 years job tenure	83.01	82.96	76.80	70.28	55.40	60.63	53.85	54.28	49.96	50.53	40.60	33.25
More than 10 years job tenure	84.04	84.02	78.66	72.41	54.54	59.78	54.33	54.77	53.59	54.18	44.38	36.88

¹ Reported estimates are for the conditional probability of being concerned about necessities ("very concerned" or "a little concerned").

² Reported estimates are for the conditional probability of reporting few or no valued skills (the statement "It seems to me that I don't have many characteristics that are valuable in the current economy" "exactly describes" or "may describe" the respondent)

³ Reported estimates are for the conditional probability of reporting costly job loss ("very concerned" or "a little concerned" about the chance of losing their job, and "absolutely uncertain" or "fairly uncertain" about finding a job if laid off)

Table 7. Rural-Urban Differences in Predicted Probability of Being Concerned

	Concerned about necessities		Does not have valued skills		Concerned about unemployment	
	1990s	2000s	1990s	2000s	1990s	2000s
Overall rural–urban difference	1.47	7.66	-4.75	0.56	1.09	8.33
Rural–urban difference; metropolitan areas excluded	-0.19	5.54	-4.98	-1.17	-0.78	6.47
Rural–urban difference if all workers reside in urban areas within the reference region; metropolitan areas excluded ^a	0.92	1.44	0.90	1.92	0.42	0.08
Rural–urban difference if all workers reside in urban areas within their region of residence; metropolitan areas excluded	1.98	1.65	0.24	1.36	1.26	-0.74

^a Reference region: Volga-Vyatski and Volga region.

Table A. Ordered Probit Estimates for Economic Insecurity: Region Effects

	NECESS		VALUD		UNEMPL	
	Rural	Urban	Rural	Urban	Rural	Urban
<i>Regressions for 1990s</i>						
Northern and North Western region	0.088 (0.152)	0.063 (0.069)	0.148 (0.135)	0.097 (0.071)	0.245 (0.124)	0.195*** (0.066)
North Caucasian region	0.482*** (0.094)	-0.212*** (0.068)	0.247*** (0.094)	0.155** (0.064)	0.332*** (0.093)	0.047 (0.068)
Ural region	0.109 (0.129)	0.050 (0.052)	0.062 (0.126)	0.011 (0.053)	-0.038 (0.117)	0.069 (0.055)
Central and Central Black-Earth region	0.663*** (0.098)	-0.093* (0.054)	0.356*** (0.096)	-0.067 (0.055)	0.460*** (0.094)	-0.094* (0.056)
Western Siberian region	-0.086 (0.127)	-0.144** (0.068)	0.021 (0.114)	-0.010 (0.068)	-0.035 (0.110)	0.165** (0.065)
Eastern Siberian and Far Eastern region	0.081 (0.117)	-0.025 (0.060)	0.362*** (0.117)	0.063 (0.063)	0.129 (0.118)	-0.004 (0.060)
Metropolitan: Moscow/ St. Petersburg	-	0.379*** (0.060)	-	0.058 (0.070)	-	0.358*** (0.061)
<i>Regressions for 2000s</i>						
Northern and North Western region	0.025 (0.104)	0.067 (0.059)	-0.140 (0.110)	0.064 (0.056)	0.440*** (0.094)	0.331*** (0.055)
North Caucasian region	0.170** (0.071)	-0.031 (0.052)	0.440*** (0.066)	0.233*** (0.051)	0.339*** (0.075)	0.137** (0.057)
Ural region	-0.047 (0.080)	0.059 (0.040)	0.083 (0.077)	0.039 (0.039)	0.297*** (0.087)	0.055 (0.045)
Central and Central Black-Earth region	0.108* (0.065)	-0.014 (0.041)	0.450*** (0.067)	-0.055 (0.042)	0.493*** (0.073)	-0.002 (0.045)
Western Siberian region	0.079 (0.074)	-0.050 (0.053)	0.211*** (0.074)	-0.033 (0.053)	0.023 (0.077)	0.181*** (0.058)
Eastern Siberian and Far Eastern region	-0.158* (0.083)	-0.015 (0.045)	0.459*** (0.087)	0.231*** (0.048)	0.211** (0.089)	0.037 (0.047)
Metropolitan: Moscow/ St. Petersburg	-	0.191*** (0.047)	-	0.231*** (0.049)	-	0.138*** (0.051)

Robust standard errors in parentheses under the coefficient estimates

* significant at 10%; ** significant at 5%; *** significant at 1%

Coefficients are from the ordered probit regressions described in the footnote to Table 4.

Reference region: Volga-Vyatski and Volga

Numbers in **bold** reflect statistically significant differences, at the 5% or better, between rural and urban coefficient estimates.