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**THE DURATION OF
UNEMPLOYMENT IN RUSSIA**

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ABSTRACT

The Duration of Unemployment in Russia*

This paper uses longitudinal survey data to assess factors affecting the duration of unemployment in Russia. We examine four types of marginalised labour force participants, according to International Labour Organisation (ILO) guidelines and survey responses, and we estimate duration models for each type. It turns out that the sets of characteristics with the strongest effects on the duration are remarkably similar across the different unemployment definitions and model specifications. Therefore, despite the formidable practical measurement problems, problematic groups of individuals can actually be identified.

JEL Classification: J4, J6, P2

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NON-TECHNICAL SUMMARY

This paper uses the Russian Longitudinal Monitoring Survey (RLMS) to assess factors affecting the duration of unemployment and underemployment in Russia between 1994 and 1996. We examine four types of marginalised labour force participants, according to International Labour Organisation (ILO) guidelines and to responses from the RLMS questionnaire. We estimate duration models in order to identify population groups who find it most difficult to exit the Russian unemployment pool.

The sampling design of the RLMS makes it a nationally representative sample. Four thousand Russian households took part in the second RLMS panel, carried out between 1994 and 1996. From interviews carried out with adult household members we have detailed information about occupation, gender, education levels and type, owed wages, unpaid leave, and income from secondary jobs. Although 4000 households may seem small given the size and economic diversity of Russia, the RLMS is, to date, the only national survey that follows individuals over time.

Although the RLMS does contain a question asking respondents to classify their primary occupation at the time of interview, we chose to classify the labour market status of individuals according to other questions about their activities. We expected that, particularly in a country where unemployment was unknown before 1991, individuals who were seeking jobs might wish to avoid the stigma of classifying themselves as unemployed. In comparing responses to the RLMS question on primary labour force status to questions about job search and desire for a job, we do find substantial discrepancies.

For the purposes of examining the flow of individuals through the unemployment pool, we take unemployment spells that begin following the initial 1994 interview. Because of concerns about how to define unemployment in a way that captures the phenomenon of marginalisation in the Russian labour market, we estimate duration models for four subgroups of the unemployed and marginally employed. The core, 'ILO-style' unemployed sample is of individuals who report no work and that they had been engaged in job search in the month prior to the RLMS interview. The 'No Job' group extends this sample to include non-workers who did not report search but want a job. By augmenting this with individuals experiencing unpaid leave, we obtain the 'Not Working' group. Finally, the sample is augmented by the addition of individuals with (incomplete) spells of non-payment, so becoming the 'No Pay' group. It is hoped that these four groupings allow distinctions between these labour market subgroups, and between individuals of different characteristics, to become apparent.

We find that the personal attributes affecting an individual's length of stay in the jobless pool are generally similar across the four definitions of labour market marginalisation that we have chosen. We find that highly educated workers who left jobs after October 1994 have shorter unemployment and underemployment durations than their less educated compatriots do. The level of unemployment amongst the higher-educated group is also relatively low. This result contrasts with that of Foley (1997) using the 1992–4 rounds of the RLMS, in which relatively high expected durations are found for more educated workers. This suggests that demand-side factors have turned in favour of the better educated over time.

Females in our flow sample appear to have relatively short unemployment durations. However, additional tests show that married females have significantly longer durations than married males, while unmarried females have significantly shorter durations than unmarried males. It would appear that unmarried females search more intensively than married women, or have lower reservation wages, or that marital status counts against females in recruitment. Of female respondents in the 1995 RLMS survey, 74% are married. We observe longer durations amongst residents of small towns in the two larger subgroups. This suggests that there are strong distinctions between rural and suburban unemployment experience. Unemployed individuals in Moscow and St. Petersburg generally exit the unemployment pool much more quickly than individuals in other regions of Russia.

We find no significant differences in hazards of exit amongst searching unemployed individuals of different age groups. We do find a higher unemployment incidence for younger workers, many of whom are likely first-time job seekers.

Unemployment spells in Russia appear to be short for individuals who lost their jobs after October 1994. The mean completed spell length amongst unemployed searchers is 6.4 months, and the median 6.3. The expiry of severance pay benefits after 2-3 months appear to have a negligible effect on hazards of exit from unemployment.

It is important to place our results in the context of a labour market which increasingly fails to pay its workers, in which workers are sent on extended leaves with little or no pay, and in which production levels are less than half of their 1991 levels. The low unemployment levels and durations observed in this analysis can be interpreted as an indicator that the massive reallocation of human capital necessary for productive efficiency and international competitiveness have not been stimulated by mere price liberalisation and deregulation.

1 Introduction

By now, the use of reduced-form duration analysis to study unemployment durations is widespread. Such analyses identify the statistical effect of explanatory variables, such as personal characteristics, on the exit rate out of unemployment. This in turn enables one to identify groups of individuals with high expected durations. Devine and Kiefer (1991) provide a survey. Virtually all of the empirical literature is based on data from OECD countries. In the present study we investigate to what extent the tools of reduced-form duration analysis can be fruitfully applied to Russian data, by analyzing unemployment duration data from Russia.

Unemployment officially became legal in Russia in 1991. Despite the formidable economic problems in Russia in the 1990s, the official unemployment rate in Russia has remained lower than that in most of Western Europe. For example, the level of registered unemployed in Russia was only 1.5% of the labour force in 1993–94 (Standing, 1996). Unfortunately, such registered unemployment statistics are not very informative. Many jobless do not bother to register and as such choose not to search for jobs by way of the state employment agency. In addition to the de facto jobless, there are perhaps 10–15 times as many individuals who are formally employed but who do not have gainful employment and do not report for duty.¹ Others work regularly but do not receive remuneration on a regular basis. The determination of the labour force status of individuals is compounded by the perverse effect of policy incentives on firms. These incentives encouraged firms to keep “ghost” employees at extremely low wages or to send employees off on unpaid leave (see Section 2). Finally, many individuals do not desire a formal job because they are engaged in under-the-table entrepreneurial work or other activities in the informal sector of the economy.

The definitions of unemployment as designed by the International Labour Organisation (ILO) were deliberately intended to be universally applicable, i.e. not only in OECD countries but also in developing countries outside the OECD (see ILO, 1982, and Rao and Mehran, 1985). The most commonly used ILO definition states that an individual is unemployed if he or she reports to be without employment, to be seeking employment, and to be currently available for employment (see ILO, 1982). However, it is clear that a mechanical application of this definition to Russian labour market participants at best only captures

¹Estimate of the World Bank advisory to the Russian Ministry of Labour, March 1998.

part of the unemployment problem. For example, it excludes individuals who are formally employed but do not earn a wage from this, whereas it may include individuals who earn a substantial amount of income in the informal sector.

We deal with this by performing empirical analyses with different definitions of what constitutes a spell of unemployment. In particular, we consider spells of “no work”, “no pay”, and “no job”, as well as spells of unemployment as defined by the ILO, and we estimate duration models for each of these. If a certain explanatory variable (personal characteristic or labour market feature) has a similar effect on the lengths of all of these spell types, then this identifies an important indicator of the expected duration until regular employment. In such a case, policies addressed at the reduction of the duration until work may focus on the corresponding types of individuals. Since the explanatory variables we use are readily observed, it should not be difficult for government-related institutions to identify these types either. All of this should enhance the understanding of the unemployment and underemployment problems of Russia.

The data we use are from the Russian Longitudinal Monitoring Survey (RLMS). To construct spell durations, we use self-reported information on events between the previous interview and the current interview, for a number of consecutive interviews. Unfortunately, this information does not always enable a precise reconstruction of (the dates of) all transitions. Again, to deal with this, we perform empirical analyses using different rules of thumb. It turns out that the results of interest are not sensitive to this.

The paper is organised as follows. Section 2 discusses the institutional context. Section 3 introduces the RLMS data and discusses unemployment definitions. We explain why we consider four different types of unemployed and underemployed workers. Section 4 is devoted to the results. Conclusions are drawn in Section 5.

2 Some institutional aspects

In this section we discuss some institutional aspects of the Russian labour market in the 1990s. We mainly focus on issues that are of particular importance for the present study, as there are many existing studies in which the general institutional context of unemployment in Russia is outlined (see e.g. Desai and Idson, 1998, Earle and Sabirianova, 1998, Lehmann et al., 1998, Lippoldt, 1997, Roxenborough and Shapiro, 1996, and, in particular, Standing, 1996).

From 1988 onwards, the economy of the USSR was in dramatic recession (Ellman and Kontorovich, 1992), and the Soviet regime recognised that unemployment was inevitable. The 1991 “Employment Act” in the USSR led to the development of a Federal Employment Service (FES). By the end of 1994 there were 2300 labour exchanges in Russia (Standing, 1996). Firms are obliged to register all vacancies with the FES, and to make use of the FES in recruitment. In practice, they seldomly do. In the 1991 Russian Labour Flexibility Survey (RLFS), 2/3 of firms use advertisements to recruit workers, and only 14% rely directly on the FES for the filling of their vacancies. According to Standing (1996) and the 1994 RLFS, only 2/3 of firms register their vacancies with the FES in 1994, and this is less than in 1991. Few of the workless register as unemployed. Standing (1996) explains several reasons for this. Despite their rapid emergence, FES offices are still few and far between. Many firms fail to inform dismissed workers of the need to register, because that way they can then avoid severance pay. Also, there is a low probability of getting a job via the FES. In Section 3 we provide some empirical evidence for the latter.

Registration is necessary to receive unemployment benefits. However, there are strict criteria for receiving any benefits, and any benefits received are very low (Standing, 1996, estimates them at about 10% of the funds necessary for survival, in 1996). Moreover, there is a substantial arrear in the payment of unemployment benefits. For example, in March, 1998, the average arrear is nine months,² although it is not so high in 1994–1996.

Since the beginning of the transition in Russia, various forms of “Excess Profit Taxes” have existed. The excess profit tax is calculated as a portion of the average wage bill of the firm. For example, the 1994 form of this tax states that if the wage bill divided by the number of employees exceeds more than four times the statutory minimum wage, the firm would be subject to a 35% tax. This encourages firms to keep employees on at extremely low wages, or to send them on long unpaid leave. Roxenborough and Shapiro (1996) provide evidence for this. Lowering real wages (i.e., raising nominal wages with less than inflation) also encourages individuals to leave voluntarily, in which case firms bear do not have to pay severance payments.

²Thanks to the World Bank Advisory to the Ministry of Labour, Moscow, for this information. The arrear is to some extent due to the fact that funds for benefit payment are collected by levies on local employers. Thus, regions with high unemployment and low activity have relatively little funds to be allocated amongst a relatively large number of individuals.

3 The data

3.1 The Russian Longitudinal Monitoring Survey

The RLMS is a household-based survey designed to monitor the effects of economic transformation on the welfare of households and individuals. The first RLMS panel covers the years 1992 to 1994, and the second panel covers the years 1994 to 1996. Interviews are carried out in the fourth quarter of each year. Recently-published articles using the first (1994) wave of the second RLMS panel focus on topics such as monitoring nutrition during reform (Popkin et al., 1996), iron intakes amongst demographic groups, induced abortion, and poverty (Mroz and Popkin, 1995).

In the 1994 survey, 4718 households took part, and individual interviews were conducted with as many adult members of each household as possible. Information about individual characteristics and working lives was gathered for all household members aged 18 or older. All survey respondents were paid for participation. The household response rate was above 80% in the first (1994) wave. Interviewers returned to addresses in subsequent rounds, but they did not follow households that had moved residence.

For the present study we use individual records of the second RLMS panel. The individual-level survey includes information about occupation, region, gender, education levels and type, (owed) wages, unpaid leave, and income from secondary jobs. We restrict attention to individuals between age 19 and the normal retirement age (55 for women and 60 for men). This results in 3306 individuals, some of whom experience no work interruptions before the 1996 round.

Attrition from the panel data is low. Between the 1994 and 1996 interview, 465 of the 3306 individuals are lost to attrition. We account for spell interruption due to attrition by treating the corresponding durations as independently right-censored durations.

We mostly restrict attention to spells with a starting date after the 1994 interview. This sampling scheme results in random samples of the inflow into the corresponding state, and as such it precludes initial conditions problems (see Lancaster, 1990). Note that as a result, we have detailed information on the individual's economic activities at the date of the latest interview prior to the spell. An unemployed (to be defined below) individual is asked to state the elapsed time since he entered this state, as well as whether he registers at the employment office

and receives benefits, and his current job search strategies. For underemployed (to be defined below) individuals, information is available on the duration (both elapsed and completed) of unpaid leave spells or the elapsed duration of non-payment by the employer. The construction of spell durations from answers to RLMS questions is described in detail in Subsection 3.4 below. Those who are working are asked to state their job tenure. Wages are corrected with the CPI for the month prior to the interview.

3.2 Definition and observation of ILO-unemployment

As noted above, registration at a FES office is not a reliable indicator of whether one is unemployed in any sense. Table 1 indicates the low and declining registration at the FES amongst the RLMS 1994–1996 respondents. It also shows that females are far more likely to be registered than males, and that individuals who are registered have a relatively low likelihood of benefits entitlement. As noted in Section 2, unemployment benefits generally do not provide a large incentive to register. Note however that women both have a higher registration rate and a higher rate of benefits entitlement. Table 2 shows that the FES does not constitute the dominant channel by way of which unemployed (to be defined below) respondents search for jobs. The matching of firms and workers also often occurs by way of friends and direct applications to enterprises.

Unfortunately, the data do not allow us to distinguish between unemployment spells of individuals who are registered and receive benefits and spells of individuals who are not registered or do not receive benefits. This is because information on registration and benefits is absent for spells in between two consecutive interview dates.

Now let us turn to the ILO unemployment definitions. As noted in the introduction, the three criteria of the ILO’s standard definition are that an individual is without work, currently available for work, and seeking work at the time of interview. The application of this definition results in the first type of unemployment we consider. We refer to this type as “ILO-unemployment” or simply “unemployment”.

The first question of the interview, “Tell me please, do you work now?”, can be answered with “yes”, “maternity leave or leave for caring for a child under three”, “other paid leave”, “unpaid leave” or “no”. This is the question we use to determine if an individual is without work. In order to separate the

individuals without work who would like a job from those without work who are non-participants, we use responses to the question “Did you go anywhere or see anyone looking for a job in the past 30 days?”. The respondents who report “yes” to this also report “yes” to the question “Would you like to find a job?”. Together, these constitute the ILO-unemployed at the date of the interview.

Tables 4 and 5 provide summary statistics of the answers to the above-mentioned questions and some explanatory variables, for all three interviews. There is a larger fraction of working males than working females, although the gap declines to only 6.4% over the sample period. The female jobless are less likely than the males to have searched in the month prior to the interview, although there is no gender difference in the proportion of workless who report that they would like a job.

The proportion of non-workers who are uninterested in obtaining jobs remained at about 25% over the course of the panel. The distribution of individuals amongst various labour market states was relatively stable in the sample period.

At each interview, respondents were actually asked three times about their employment status, in questions placed at the start, middle and end of the interview. In the middle of the interview, individuals were asked if they “currently work”, with the possible answer being yes or no. Individuals who report to be without work at the first question answer “no” to the second question. At the end of the interview, individuals were asked to label one “main time occupation at present” from a choice of fourteen³ However, it is not unlikely that respondents prefer to call themselves “housewife”, “retired”, or “disabled” when in fact they are willing to take a job, because of possible stigma effects of being unemployed in Russia. Such stigma effects could be particularly large in a country where unemployment was unheard of before 1991. Table 3 illustrates just how important the difference is between individuals who consider themselves unemployed according to this question at the end of the interview, and those who would be considered

³One of the following responses (besides non-response) was possible: High school or vocational school student; university or technical school student; unable to work for health reasons, disabled; retired and not working; on maternity leave; on official leave for taking care of children under age three and not interrupting employment; a housewife, caring for other family members, raising children; temporarily not employed for other reasons and looking for a job; temporarily not employed for other reasons and don’t want to work; farmer; entrepreneur; working at an enterprise, organisation, collective farm, state farm or cooperative; working at other than an enterprise, organisation, collective farm, state farm, or cooperative; other (specify).

unemployed according to our ILO-style definition above.

The ILO-style definition allows for the inclusion of students, housewives, and other non-working groups, provided they meet the corresponding criteria. Note that many females who are unemployed according to the ILO-style definition report at the end of the interview that they are housewives. Foley (1997), in an earlier study of Russian unemployment, uses the individual's self-classification at the end of the interview to determine who was unemployed in the 1992–1994 rounds of the RLMS. According to Foley's definition, only those who describe themselves as “not working, looking” are considered unemployed. In fact, as Table 3 shows, many such people did not search for a job in the month prior to the RLMS interview.

Keeping this in mind, it may still be of interest to compare unemployment in the 1994–1996 rounds of the RLMS to Foley's (1997) results for the 1992–1994 rounds of the survey. He observes that unemployment is very high amongst under-21s, and relatively high amongst the 21–29 age group. Gender differences in unemployment do not seem important, although women have longer expected unemployment durations. While unemployment among the higher educated is lower, they have higher than average durations. Our data concurs with this in finding relatively high unemployment amongst the young, and lower-than-average unemployment amongst the most highly educated (see Table 5). Due to differences in the treatment of spells between interviews, our results concerning expected durations are not directly comparable. We return to this below.

In the remainder of this study, we not use the information from the question at the end of the interview.

3.3 Definition and observation of other unemployment types

The ILO (1982) also states that: “In situations where the conventional means of seeking work are of limited relevance, where the labour market is largely unorganised or of limited scope, where labour absorption is inadequate, or where the labour force is largely self-employed, the standard definition of unemployed may be applied by relaxing the criteria of seeking work.” (Rao and Mehran, 1985). Obviously, the Russian labour market meets the premise of this statement. We adopt three different approaches, taking into account (*i*) important features of the Russian labour market, and (*ii*) what can be observed from the RLMS data.

First of all, we extend ILO-unemployment by including discouraged workers. These are individuals who have become discouraged after non-successful search, but who are still ready and available for work. They are assumed to answer “no” to the question “Did you go anywhere or see anyone looking for a job in the past 30 days?” but “yes” to the question “Would you like to find a job?”. The importance of including discouraged workers in the analysis is evident from the fact that 85% of non-workers who did not search in the month before the 1995 interview report that they want a job. In the 1996 interview, the proportion was 83%. Together, the ILO-unemployed and these discouraged workers constitute the “No Job” type of unemployed, which is our second type of unemployment.

The ILO (1982) guidelines state that unemployment in general should not include individuals who are temporarily absent from their jobs, with the exception of laid-off workers without certain recall to their positions. According to their 1954 definition of unemployment, however, individuals who are temporarily laid-off without pay may be considered to be unemployed. Given that it is widely believed that unpaid leave has been applied as a substitute for unemployment in Russia (see for example Standing, 1996), we attempt to account for this by developing a third definition of unemployment: “No Work”, which merges “No Job” with “unpaid leave”.

The RLMS asks individuals whether they are on unpaid or partially-paid leave. Spells of unpaid leave are determined by responses to the question “How many calendar days, without a break, did this leave last or has it lasted?”. There is no similar question on partially-paid leave, so we cannot determine durations of partially-paid leave, and for that reason we do not include individuals on partially-paid leave in the “No Work” definition.⁴

The RLMS questionnaire does not distinguish between short-term unpaid leave and unpaid leave with an undetermined length. Even if it is known whether a completed spell of unpaid leave results in a separation, return to the old job,

⁴It should be noted that partially-paid leave is more prevalent amongst respondents in the RLMS surveys than unpaid leave. At the time of the 1995 survey, 0.7% of workers are on unpaid leave, while 1% are on partially-paid leave. Many of those on partially-paid leave are owed substantial sums of money from their enterprise. This suggests that many actually have not been receiving payment during leave. As an example, in the Kamaz truck factory in Naberszheny Chelny, workers officially earn 2/3 of their salary when on leave. However, this salary exists on paper only. Instead of receiving payment, part of the debt to workers is paid as coupons for the company store. This store stocks little more than bread rolls, milk, and sour cream, at prices three times that of the local market.

or transition to a new job, we have no information about how individuals viewed their lay-offs during the unpaid leave spell. In the current economic situation, many workers who are told that they can return at a specified date most likely do not expect this to occur. Given the impossibility of distinguishing between the “temporarily” and “permanently” laid-off, we treat all unpaid leave spells alike.

Finally, we briefly discuss a fourth type of unemployment or underemployment. The ILO (1982) unemployment definition was designed to complement the definition of employment. According to the employment criteria, being “at work” explicitly involves remuneration in cash or kind during the reference period.⁵ Thus, individuals who work but have not received wages during the reference period or for longer do not strictly comply with either the ILO-employment or the basic ILO-unemployment criteria. While little is known about the frequency with which owed wages are actually paid, it is known that the stock of arrears in the population increased by 40% between 1994 and 1996 (Lehmann et al., 1998). We view the existence of wage arrears as one of several indicators of hidden unemployment in Russia. For this reason, we define a fourth type of unemployment by including (into “No Work” unemployment) workers who are formally at work but have a wage arrear. We refer to this as “No Pay” unemployment.

It should be noted from the outset that the empirical duration analysis of this fourth type of unemployment or underemployment is rather speculative. This is, first of all, because it is difficult to assess whether a worker really has not had any kind of payment, in money or in kind. Secondly, the duration of a spell of having a wage arrear is difficult to determine. The question “How many months has this money not been paid to you?” is used to determine the elapsed duration at the interview date, but there is strong evidence that this question is interpreted otherwise, namely as the cumulative number of unpaid monthly wages independent of the timing of the non-payment (see Earle and Sabirianova, 1998). For these reasons we do not go into detail when discussing the results for this fourth type of unemployment.

We finish this subsection by briefly discussing some issues related to the in-

⁵According to ILO (1982), employed persons are those “above a specified age” who, during the reference period are either: i. At work, performed some work for wage or salary during the reference period. ii. Generally work, but were ill or injured; on holiday; on strike; on training, maternity, or parental leave; iii. Persons who performed some work for profit or family gain (in cash or goods) during the reference period iv. Working with an enterprise but temporarily not at work during reference period for a specific reason.

formal sector of the Russian economy. According to a strict interpretation of the ILO definition of unemployment, individuals who engage in informal activities for remuneration should not be considered unemployed. In Russia, this would likely be a very large portion of those “without a job”, because of the effective absence of unemployment benefits. However, we do not exclude individuals on the basis of informal sector activity, for two reasons. Firstly, the likely underreporting of the activity makes the relevant variables in the RLMS unreliable. Secondly, and perhaps more importantly, it is impossible to know whether these activities are a choice in the face of formal sector opportunities, or simply short-term survival measures taken by those who would strongly prefer a formal workplace. A desire for enterprise attachment might be particularly strong amongst Russian workers, who have spent most of their working lives attached to all-providing enterprises. In the 1994 sample, 14% of non-working individuals of working age reported engaging in individual economic activity in the month prior to the RLMS interview.

We realise that our groupings of unemployed and underemployed are not exhaustive. Other types of underemployment are suggested by administratively-reduced work hours and consistently low remuneration, as well as by the forced unpaid leave and non-payment considered here. However, these issues cannot be addressed in the framework of a duration analysis based on household survey data.

3.4 Observation of spell lengths

Now that we have determined whether a respondent is in a certain unemployment spell at the moment of an interview, how do we determine the length of this spell? Recall that we only use spells that start after the 1994 round and before the 1996 round of the RLMS survey (although in Appendix A we compare results obtained with the 1994 stock of unemployed to those of our 1994–1996 flow sample). The recovery of spells and their lengths is complicated by the fact the RLMS does not systematically address all individual labour market transitions that are made between two consecutive interviews, and it does not include questions about completed job, unemployment, or non-participation spells between interviews.

Spells of non-work between interviews could be partially recovered by looking at differences in the reported duration of the present job at each interview. If the difference in interview dates between the two years did not match the difference

in reported job duration between interviews to within one month of accuracy, it was assumed that a work interruption took place. Where a work interruption took place between interviews, it was assumed that individuals spent at least some of this time in unemployment, and did not move to non-participation. Given that the non-work spell ended in employment, it is assumed that some job search must have occurred.

It is impossible to determine exactly how much of this unexplained time between interviews is actually non-work, or even to distinguish observations by a rule based on personal characteristics. We have no information on the number of weeks worked by the individual in the year of interest, so cannot create an upper bound for the fraction of “unexplained time” spent in unemployment. We know only about one event which occurred between interviews.

Several different specifications were made to assess the sensitivity of the estimates to assumptions about what individuals did during “unexplained periods”⁶. Results regarding duration dependence and the influence of personal characteristics were found to be robust under several different division rules for “unexplained time” and to different assumptions about the distribution of unemployment spells. In what follows, we will focus on results in which the work-unemployment division of unexplained spells is 90/10. Although the simplicity of such a rule precludes distributional considerations, other feasible rules would be equally arbitrary. We are aware that not accounting for the distribution of unexplained time may create spurious spikes in the observed hazard, since individuals who make several transitions between interviews will be coded as having only one spell. Still, our division rule gives mean unobserved spell durations which are closest to that reported by Goskomstat (1996) for age and gender groups⁷.

⁶Individuals experiencing spells between interviews were assumed to have searched, because they did find jobs before the next round. It is possible for individuals to have more than one spell in the data. When this occurs, a random draw is used to choose one of the spells. This selection avoids the problem of correlations between observations. Assumptions about the division of “unexplained time” between employment and work include: i. no time spent in unemployment ii. 50% of time spent in unemployment iii. 80% of time spent in unemployment iv. 100% of time spent in unemployment v. randomisation of percentage of time spent in unemployment Results of sensitivity tests are available from the authors on request.

⁷This was judged to be more exact than simply excluding spells between interviews, because individuals with relatively long unemployment durations are more likely to be unemployed at a given interview date. Although we are unsure of spell length, the inclusion of “unexplained time” spells is informative about the parameters of interest and the dynamics of the hazard

Inconsistency of responses regarding unemployment duration would occur if individuals unemployed in 1995 or 1996 systematically reported elapsed durations which were at odds with their responses (state, elapsed duration) in previous rounds. Amongst the search unemployed, only 8 of 86 respondents unemployed at the 1996 interview reported durations which were inconsistent with their reported status in the 1995 interview, and only 6 of 64 had an inconsistency between 1994 and 1995. Most of these inconsistencies were less than month in magnitude, and as such the observations were retained.

Graph 3 illustrates the possible movements of individuals in our sample through spells of worklessness. The thick lines represents imprecisely observed spells, while the thin lines represent spells for which precise duration is known. It is possible that several short unobserved spells occurred during “unexplained time”, but we abstract from this possibility.

Individuals experiencing spells between interviews were assumed to have searched, because they did find jobs before the next round.

In the following analysis we allow the hazard of exit from a jobless spell to vary over elapsed duration. For these reasons all of the specifications adopted in the foregoing analysis will allow the hazard of exit from an unemployment spell to vary over time.

The distribution function

$$F(t) = \Pr(T \leq t) \tag{1}$$

gives the probability that the random variable T (spell length) is less than some value t .

The corresponding survivor function is

$$S(t) = (1 - F(t)) = 1 - \Pr(T < t) \tag{2}$$

The hazard function is defined as

$$\lambda(t) = f(t)/S(t) \tag{3}$$

so $\lambda(t)$ denotes the rate at which spells will be completed at t , given that they last until t . As is standard in duration analysis, we use the term “failure” to refer to observations for which the spell end is observed⁸

function.

⁸For specific information about duration analysis, see for example Kiefer, 1988, Lancaster (1990) and Van den Berg (1999).

4 Estimation results

The piece-wise constant hazard model is a partially parametric explanation of differences in duration distributions amongst labour force groups. It is used here as a way of assessing differences between our four subgroups in the direction of the hazard at different points in time, while controlling for differences in the observable characteristics of individuals, as well as unobservable individual-specific heterogeneity in the data.

We fit a piece-wise constant hazard to each of the four labour market groups under consideration. The hazards are assumed to be constant within each quarter in the first year of duration, and to be constant thereafter. Thus, between each quarter hazards will generally be different. Table 6 illustrates the results.

We find no significant differences in hazards of exit from ILO-style unemployment amongst different age groups. Whereas we noted earlier (see Table 5) that individuals under 29 have a relatively high incidence of unemployment, young searchers do not appear to have longer spells than other age groups. Specifications which include the discouraged unemployed, those who experience unpaid leave, and those who experience wage arrears suggest that workers older than forty have find it more difficult than younger workers to exit marginalised labour market positions.

Individuals who live in Moscow and St. Petersburg have significantly higher hazards of exit than individuals in other areas. This result is consistent with other labour market studies (see for example Earle and Sabirianova, 1998) which find that individuals in these areas are also less likely to be in marginalised labour market positions than in other areas of Russia.

Females in our flow sample appear to have relatively short unemployment durations. However, additional non-parametric log-rank tests show that married females have significantly longer durations than married males, while unmarried females have significantly shorter durations than unmarried males. It would appear that unmarried females search more intensively than married, or have lower reservation wages, or that marital status counts against females in recruitment. Of female respondents in the 1995 RLMS survey, 74% are married.

We observe longer durations amongst residents of small towns in the two larger subgroups. This suggests that unpaid leave and non-payment spells are relatively lengthy in communities of less than 2500 individuals, and corroborates with Lehmann, Wadsworth, and Acquisti (1998), who find large geographical

variation in the extent of wage arrears.

Given two mass points, the probability values and their standard deviations show that unobserved heterogeneity is not important in any of the four grouping of marginalised workers here considered. This corroborates with Foley (1997), who finds that unobserved heterogeneity is not of significant importance in the 1992–1994 rounds of the RLMS.

The expiry of severance pay benefits after 2–3 months appear to have a negligible effect on hazards of exit from unemployment. The baseline hazards estimated for each of three month period suggest that duration dependence is positive in the first three quarters. The duration-dependence result is insensitive to the way in which spells between interviews have been treated, but should still be treated with caution.

Sensitivity analysis using Weibull and log-logistic assumptions about the distribution of durations supports the findings using the piece-wise constant hazard specification. Specifications including a wider range of regional dummies and the wage prior to the unemployment spell failed to increase the explanatory power of the model.

Unemployment spells in Russia appear to be short for individuals who lost their jobs after October 1994. The mean completed spell length amongst unemployed searchers is 6.4 months, and the median 6.3. This is far lower than that observed by Foley (1997) using the 1992–1994 rounds of the RLMS.

5 Conclusions

The foregoing analysis highlights the importance of accurately defining “unemployment” in the treatment of Russian data. The large differences between an ILO-style unemployment definition and the searching individual’s self-classification suggest both that there is a social stigma associated with being workless, and that many people who would like to work do not actively search.

We find that highly-educated workers who left jobs after October 1994 have shorter unemployment and underemployment durations than their less educated compatriots. Using the 1992–1994 RLMS data Foley (1997) finds relatively high median durations for those with completed higher education. The jobs situation appears to have changed over time in favor of better educated workers.

The finding that individuals with higher education have higher hazards of exit

from unemployment corroborates with evidence from other transition economies. Luboyova and Van Ours (1997) find that Slovaks with higher education or vocational training have relatively high hazards of exit from unemployment to a job in 1995. Ham, Svejnar, and Terrell (1999) find that, amongst men in the Czech and Slovak republics, the older and less educated have significantly longer jobless spells.

In the round of clerical and administrative staff reductions that accompanied the collapse of the USSR, an estimated 70–80% of those laid off were women (Katz, 1998). The phrase “The female face of Russian unemployment” was widely used amongst Russian social scientists. Our results suggests that this phrase no longer applied in 1994. The rate and duration of unemployment have become smaller for women than for men.

It is important to note that our finding of relatively short expected spell lengths and positive duration dependence amongst the de facto workless does not indicate that the problem of long-term unemployment is diminishing in Russia. The proportion of long-term unemployed amongst the workless increased from .52 in the 1994 sample to .59 in the 1996. Only 27% of individuals who were in the jobless stock at the 1994 interview had completed their spell by the last interview of the panel. Unlike in Western European countries, these long-term jobless are not primarily unskilled. The Russian jobless pool appears to be composed of a dichotomy of stayers and movers.

Appendix: Comparison of 1994 stock of unemployed and 1994–1996 flow sample

While the main focus of the paper has been on individuals who experienced a spell of worklessness in the period following the first interview of the panel, we are interested in the extent to which our results may be generalised to all respondents in the RLMS questionnaire.

A priori, we expect individuals who are observed to be without work at the 1994 interview to have longer expected durations than those in the 1994–1996 flow sample: Longer durations are more likely to be observed at any point in time. We expect the flow sample to have stronger labour force attachment than that of the 1994 stock, as they will be relatively unaffected by any stigmatisation effects of being long-term unemployed.

To compare our stock and flow samples we construct a panel which includes only individuals who were observed to be not working in the initial interview. When we account for attriters as right-censored spells, this gives us a sample of 1005 observations. We then eliminate individuals who have never worked (202), those whose workless spell began before 1991 (when unemployment officially became legal) (143). Those who answered negatively to the question “Do you want a job?” (162) were excluded, as were 37 individuals who provided inconsistent responses to duration-related questions (see Table 7).

Primarily because of our assumption that the sample containing a larger number of long-term jobless would have relatively more non-searchers, we decided not to invoke the search criteria in our comparison. Only 53% of our 633 remaining individuals from the 1994 workless stock reported search in the month prior to the 1994 interview.

A key similarity between our 1994 sample and that of the 1994–1996 flow is that neither finds negative duration dependence in the sample. For our 1994 sample the 95% confidence interval locates ρ between .95 and 1.23, suggesting neutral or small positive duration dependence.

We find more females, and more individuals with higher education in our 1994 sample than in the flow. As well, we appear to have more youth unemployed in the 1994 stock.

The regression results are generally consistent between the two samples in size and significance. Those in the 50–59 age group have significantly longer du-

rations amongst the stock and the flow. In both the stock and the flow, the youngest workers appear to have lower expected durations than any other age group. Married individuals generally have lower expected durations than unmarried, although married females have relatively far higher ones than other females or than married males.

Two significant differences between our 1994 unemployed sample and the 1994–1996 flow sample are in the mean sample duration of joblessness and in the effect of higher education completion on expected duration. Those with higher education who became unemployed prior to the first interview do not have significantly different expected durations from those without higher education. Amongst the 197 completed spells from our 1994 jobless sample, the mean spell duration is 20.2 months. This contrasts with a completed-spell duration of 6.5 from our flow sample.

On the basis of the above comparison, limited though it is to a monotonic distribution of durations, that the qualitative nature of the results drawn for our 1994–1996 flow sample are not an artifact of the chosen sample frame.

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Table 1: Percentages of non-workers registered with the state employment agency (FES), and receiving benefit, by gender

	1994		1995		1996	
	males	females	males	females	males	females
Non-workers registered at FES	6.7	11	5.5	13	6.5	8.3
FES registrants receiving benefit	54.1	64.5	49	60	60.4	65.8

Source: RLMS 1994-1996

Table 2: Job search strategies of the unemployed. Proportions using each method in month prior to RLMS interview

Search Strategy	1994	1995	1996
Applied to state agency	.42	.46	.48
Applied to private agency	.13	.12	.11
Friends	.56	.55	.69
Relatives	.26	.26	.43
at enterprise	.47	.42	.50
Advertising	.26	.30	.37

Source: RLMS 1994-1996

Table 3: Percentages of different labour force categories who would be considered “ILO”-unemployed individuals under our definition

Self-definition	1994	1995	1996
“higher education student”	21	17	23
“disabled, unable to work”	16	16	10
“retired, not working”	11	12	13
“maternity leave”	.6	-	-
“on leave for caring for small children”	.33	-	-
“housewife”	15	16	19
“temporarily not working, looking”	56	60	57
“temporarily not working, don’t want to work”	5	7	9

Source: RLMS 1994-1996

Table 4: Stock of working-age individuals in various states at date of RLMS interview, 1994-1996

Labour Market Status	1994		1995		1996	
	Males	females	males	females	males	females
Currently working	79	68	78.1	68	75.7	69.3
Maternity leave or leave for caring for children under 3 years	-	6.3		6.3	-	5.1
Paid leave	1.1	.7	.8	.8	1.0	.5
Unpaid leave	.6	.8	.35	.9	.6	.6
Not working	19.6	24.3	20.8	24	22.8	24.5
Proportion of those not working who would like a job	74.9	74.9	70.6	72.9	75.9	75.9
Proportion of searchers amongst those who want to work	53.1	44.6	56.2	47.0	55.2	46.4
No. of observations	2758	2760	2605	2594	2692	2552

Source: RLMS (1994-1996)

Table 5 Individual Characteristics and Unemployment in the RLMS

Category	Unemployed as Percentage of Individuals in Group		
	1994	1995	1996
Gender			
Females	6	6	7
Males	7	7	9
Age			
Under 21	12	12	15
21-29	10	10	13
30-39	6	6	7
40-49	7	4	6
50-59	3	5	6
Education Level			
University/institute	5	4	5
Technical/Medical	6	6	7
Vocational Secondary	9	8	10
Factory School	6	6	7
Professional Courses	5	7	7
Primary ₁	7	7	8
Overall	6.5	6.6	8.0
No. of Observations=3683			

Source: RLMS, 1994-19

Table 6: Piece-Wise Constant Hazard Specification of Distribution of Observed Durations

	ILO		No Job		No Work		No Pay	
	Coefficient of influence on hazard	s.e.	Coefficient of influence on hazard	s.e.	Coefficient of influence on hazard	s.e.	Coefficient of influence on hazard	s.e.
Gender	.259***	.14	.285***	.16	.215***	.12	.195*	.12
Married	.101	.13	-.0347	.16	-.216***	.11	-.226***	.10
Completed Higher Education	.358***	.18	.422***	.18	.538***	.17	.426***	.15
Moscow St. Petersburg	.331***	.15	.340***	.15	.356***	.15	.228***	.134
Aged less than 25	-.055	.14	-.0274	.52	-.164	.12	-.184	.11
Aged less than 29 (reference category is those 30-39)	-.197	.20	-.239	.19	.00758	.17	-.0026	.001
Aged 40 and above	-.394	.20	-.601***	.20	-.534***	.18	-.412***	.173
Resident of town of < 2500	.071	.14	.0136	.11	-.270***	.12	-.238***	.11
<i>Piece-Wise Constant Hazards</i>								
One to Three Months	.0360		.0322		.0983		.124	
Three To Six Months	.0611		.0559		.0715		.0809	
Six to Nine Months	.151		.1336		.143		.159	
Nine to Twelve Months	.319		.240		.250		.279	
Beyond 12 Months	.0516		.0500		.0979		.129	
<i>Unobserved Heterogeneity Term</i>								
Probability	.087		.91		.11		.89	
Log Likelihood	-567.67		-851.57		-866.75		-971.99	
Number of observations	646		756		985		1101	

Source: Russian Longitudinal Monitoring Survey, 1994-1996

*** significant at 5% level

** significant at 10% level

* significant at 15% level

Table 7 : Comparison of Factors affecting durations, Weibull estimation

	1994-1996 Flow Sample			1994 Stock Sample of Non-Workers		
	Variable mean	Coef.	s.e.	Variable Mean	Coef.	s.e.
Aged less than 25	.153	-0.194*	0.12	.208	-1.00***	.35
Aged 25 to 29	.124	-0.132	0.13	.160	-.531*	.36
Aged 30 to 39	.374	-0.126	0.11	.317	-.856***	.32
Aged 40 to 49	.275	-0.143	0.11	.225	-.552*	.33
Aged 50-59 (reference)	.072			.090		
Completed higher education	.192	-0.351***	0.07	.366	-.018	.15
Gender (reference=female)	.443	-0.267***	0.11	.532	-.473**	.26
Moscow St. Petersburg metro area	.091	-0.136*	0.09	.063	-.236	.27
Natural log of Round V wage		-0.031	0.03		n.a.	
Round V wage unobserved		-0.321	0.41		n.a.	
Married	.714	-0.274***	0.10	.690	-1.14***	.26
Married and female	.321	0.397***	0.13	.278	.89***	.31
Rural	.160	-0.021	0.08	.130	.222	.20
Constant		3.013***	0.43		5.78***	.39
Number of subjects		756			663	
Number of failures		550			179	
P		1.619			1.08	
pr> Chi squared		0			.0001	

*** significant at 5% level

** significant at 10% level

* significant at 15% level