

**Russia's Market Transition:
Who has lost and how?**

Padma Desai, Columbia University
Todd Idson, Columbia University

October 1997

Discussion Paper Series No. 9798-02

dp 9798-02
pages: 64

**Russia's Market Transition:
Who Has Lost and How?**

Padma Desai
Columbia University

and

Todd Idson
Columbia University

October 1997

Preliminary, please do not quote
Please do not circulate without authors' permission

We would like to thank Elizabeth Brainerd, Jeanine Braitwaite, Mark Foley, Vladimir Gimpelson, Katarina Katz, Laura Kline, Dominic Mancini, Branko Milanovic, Vladimir Mikhalev, Barry Popkin, Vladimir Popov, and Namvar Zohoori for helpful assistance and comments. We are responsible for the errors that remain.

Abstract

In this paper, we analyze a variety of labor market adjustment issues facing Russian households from 1992 to 1996 on the basis of a panel data set which allows us to group the sample respondents by demographic, occupational and job location features.

We employ multivariate specifications for analyzing patterns of job security and job replacement concerns, involuntary layoffs and voluntary quits, forced unpaid leave and its duration, monthly hours of work and short-time work, nonemployment spell and unemployment incidence as they affected our respondents selected by demographic characteristics, occupation, and region.

Among our principal finding is that men and women had increased fears of job loss and increased pessimism about their reemployment prospects during the years considered here but women had borne a greater burden of the majority of the "quantity" or employment adjustments.

Table of Contents

Introduction

I. Soviet Employment and Labor Allocation Practices

Labor Allocation and Worker Employment Until 1985

Women and Employment Policies Until 1985

Education, Age, Location and Employment Until 1985

Education and Employment

Age and Employment

Employment, Migration and Regional Variations

Gorbachev and Labor Market Reforms

Implications of Post-1992 Reforms for Russian Labor Market

II. Data and Analytical Framework

Data

Analytical Framework

Descriptive Features

III. Demographic, Occupational and Job Location Differences and Multivariate Analysis

Gender Differences in Job Security and Job Replacement Concerns

Job Security and Job Replacement Concerns, and the Impact of Demographic,

Occupational and Location Variables

Education and Age and Employment Concerns

Regional Variations in Labor Market Prospects

Occupational Differences in Labor Market Concerns

Patterns of Voluntary and Involuntary Job Separations

Patterns of Job Tenure

Patterns of Unpaid Leave and Its Duration

Patterns in Hours of Work and Short-time Work Schedules

The Pattern of Current Nonemployment Spell and Unemployment Incidence

IV. Summary

Tables

Appendix Tables

Bibliography

Introduction

Russia's continuing transformation into a market economy is likely to bring about relative gains for some groups while creating losses for others. The relative impact will also vary across regions and occupations. Steady inflation control via fiscal and monetary discipline and the restructuring of privatized factories can be expected to result in rising unemployment or declining real wages or both with a varying impact among different groups and localities. For example, restructuring of large enterprises may endanger the sheltered position of workers who were formerly protected from the competitive pressures of a market economy. It is possible that groups which traditionally received relatively low wages (for example, women) may gain as firms begin competing domestically and internationally leading them to hire traditionally underpriced labor. On the other hand, if factory managers continue favoring specific groups (for example, an older comrade may be preferred to a new entrant in the workforce) or adhering to traditional social norms (for example, a male worker may be hired and retained instead of a female worker because the former is regarded as the preferred breadwinner), then young workers and females may bear the brunt of the adjustment costs through job or wage loss. In that case, managerial decisions hobbled by traditional practices rather than nascent market forces will influence the distribution of the transition costs among different social groups. Women in particular may experience greater wage losses or less job security or both than men. So also would workers in the outlying regions in contrast to those in Moscow which has proliferating job opportunities.

The pre-transition regime contained incentives for managers to retain excess employees¹, decisions that while rational for the individual manager produced potentially significant losses to society in terms of the foregone output that these workers would have produced if they had been allocated to their most productive activities. Reallocating existing labor resources and bringing

¹Gimpelson (1996, p.35) reports that overstaffing in industry under the old regime varied from 15 to 25 percent; Standing (1996, p. 15) reports that approximately 8 percent of the industrial labor force was redundant. The combination of soft budget constraints and compensation that was linked to plan fulfillment rather than cost savings provided managers with incentives to overstaff their operations (see Gimpelson, 1996).

in market signals in employment decisions must be at the core of the transformation of Russia's economy into a market system of resource allocation.

These problems have begun attracting the attention of scholars working on the adjustment costs of the transition in emerging market economies. Among the issues posed are the following: how has the transition affected the labor force participation and employment rates of men and women (Standing, 1994a,b; Brainerd, 1996a)? How has the transition affected unemployment rates of men and women, their relative job loss (Standing, 1994c, 1995), and the prevalence (and duration) of forced administrative leaves and short-time schedules (Gimpelson, 1996)? What has happened to overall wage inequality and its measure by gender, skill, and age (Standing, 1994; Brainerd, 1997; Glinskaya and Mroz, 1996), and what has been the impact of these trends on poverty in Russia (Mikhalev, 1996)?

Brainerd uses information based on monthly surveys of 3,000-4,000 randomly selected individuals in 90 different areas of Russia conducted by the All-Russian Center for Public Opinion Research (VtsIOM) between 1991 and 1994. She (1996a) concludes that decentralized wage setting had resulted in the doubling of overall wage inequality between 1991 and 1994 and a decline in female wages relative to male wages across all percentiles of the wage distribution. Focusing on the gender gap in wages in Russia from 1992 to 1995, and using data for 3,000 to 6,000 households from the Russian Longitudinal Monitoring Survey (RLMS), Glinskaya and Mroz (1996) suggest that the already marked segregation of the Russian labor market had continued to grow, that all the important increase in the gender gap in wages had taken place at the upper tail of the wage distributions, and that nearly all of these changes were due to highly paid men's wages increasing more rapidly than those of women. Extending her inquiry to six East European and three post-Soviet economies, Brainerd (1997) suggests a remarkable increase in female relative wages in the former and a substantial decline in Russia and Ukraine, the latter attributable to a tremendous widening of their wage distribution.

By contrast, Standing relies on information put together from questionnaires administered by managers in a random sample of 501 factories (the Russian Labor Flexibility Survey). He finds that employment decline beginning with voluntary attrition and unfilled vacancies toward the end of 1991 was moving into substantial layoffs in 1992. Again, higher

wages for some occupations (accompanied by bonuses and entitlements) and wider wage differentials (with erosion of wages and benefits in the lower end) in some privatized and quasi-private firms had begun to appear in 1992 signaling labor market fragmentation. As for women's position in the labor market, it was still strong by international standards in early 1992: women accounted for about half the share in employment; there was less occupational segregation by gender than exists in most countries although women may have made up larger proportions of lower status jobs within each occupational category. Standing also found that the use of administrative leaves and short-time schedules had increased between 1992 and 1994-95 (Standing, 1996).

Gimpelson (1996) similarly uses enterprise level, administrative records from four firms to look at the ways in which enterprises have restructured their human resources during the transition. He reports high rates of separations extending through 1995, with worker-initiated separations (quits) rather than factory layoffs accounting for the bulk of all separations. Furthermore, separation rates have exceeded hiring rates, so that downsizing of the work force of enterprises seems to be primarily accomplished through attrition rather than through disruptive and politically costly layoffs.² Researchers have speculated, though, that some of the separations attributed to quits may in fact be separations encouraged by managers through reduced wages, short-time schedules, unpaid administrative leaves and unpaid wages (see Gimpelson, 1996, p. 18).

By the end of 1996, the transition was in full swing: the inflation rate had been brought down from an estimated 2,500 percent in 1992 to 26 percent in 1996; the economy had shrunk by half its 1992 size; the unemployment rate was estimated at 9.5 percent toward the end of 1996; and the privatized sector was reported to employ 80 percent of the workforce. However, restructuring of large enterprises was spotty and, by January 1997, wage arrears to the workforce in the amount of approximately \$9 billion signified declining revenues in the state treasury and

²Layoffs also impose high costs on firms as severance payments can be as high as three months of wages. In addition, the excess wage tax encouraged managers to retain low skilled workers, who might otherwise be fired, in order to reduce the average enterprise wage and thereby avoid paying the tax. (For details about the excess wage tax, see Layard and Richter, 1994, p. 98.)

mounting cash-flow problems in the farms and factories. At the same time, the Russian Longitudinal Monitoring Survey (RLMS) data set (to be described below) was beginning to be available enabling researchers to investigate at the household level the impact of these factors on Russia's labor market.

In this paper, we analyze gender and other demographic differences in labor market adjustments across occupation groups and regions during Russia's continuing transition to a market economy. Our focus here is on the alternative ways in which quantity, or employment, adjustments have been undertaken. These adjustment mechanisms include actual adjustments in numbers employed, accomplished by layoffs and hiring rates in conjunction with the level of worker-initiated separations, and more indirect adjustments in the employment of labor services through such practices as the use of short-time schedules, fixed-term contracts, and administrative leaves.³ In Section I, we discuss (pre-1985) Soviet practices relating to labor allocation, gender differences in employment and earnings, occupation choices by education, age and location, and how they have changed over time for men and women, for workers young and old with varying levels of education, and among different regions and occupations. We also briefly discuss the changes in employment policy and wage setting under Mikhail Gorbachev (1985-1991) and under Boris Yeltsin starting from early 1992, in addition to the important aggregate trends in Russian labor markets since 1992. These details give us the necessary background and context that informs our interpretation of the estimates from our empirical analysis. In Section II, we describe the data, define the variables, and discuss the univariate patterns in our various job security measures. In Section III, we analyze the demographic, occupation and job location patterns of job security and other features of Russia's emerging labor market such as forced unpaid leave, duration of nonemployment, voluntary quits versus involuntary layoffs, and job tenure in a multivariate context. Finally, in Section IV, we

³Labor market adjustments to variations in product demand may also take place by varying the price of labor, i.e. wages and benefits, rather than employment levels. In a separate paper we analyze the role played by wage flexibility, including the important issue of escalating wage arrears (one way in which wage flexibility may be accomplished), during the transition. We also investigate variations in these practices across gender, occupations and regions of Russia, and evaluate their impact on welfare and poverty.

summarize our findings.

I. Soviet Employment and Labor Allocation Practices

We first describe Soviet employment and labor allocation policies until 1985 as they affected job choices for workers in general and for women in particular, for employees depending on their age, education and location, followed by a brief review of the relevant changes under Mikhail Gorbachev during 1985-1991 and thereafter under Boris Yeltsin under whose leadership the transition to a market economy has gathered speed.

Labor Allocation and Worker Employment Until 1985

Under Stalin's version of the Soviet employment system (*trudoustrystvo*), Soviet citizens were required to work and the state was obliged to provide them with employment. The 1936 Constitution declared that " 'work in the USSR is a duty, a matter of honour for every able-bodied citizen--He who does not work shall not eat.' Citizens had the right to work and to 'guaranteed employment'. In the 1977 constitution citizens were not only given the right to work but also the choice of a trade or profession." (Lane, 1986, p. 9).

The planners sought to create full employment in the context of fast-paced industrialization geared toward heavy industry and state ownership of productive assets. The process was overadministered from the start: workers were allocated to specific industries which in turn were assigned production targets. (The rigors of workforce allocation varied from time to time as will be discussed below.) Cadres and specialists were trained by numbers and types according to plan requirements. Youngsters were assigned to higher education or vocational training schools to meet plan targets. Wage and salary scales were fixed by type of work and location of job⁴. Needless to say, employment planning was less than perfect: there were

⁴"The tariff system is designed to reward the 'scientifically measurable' contribution of each worker, in accordance with the principle of 'equal pay for equal work', by means of a system of national job evaluation, supplemented by coefficients for unpleasant conditions, inhospitable regions, training, industrial sector, and so on. The drawing up of tariff scales is such a centralized and bureaucratic process that the incentive impact of the tariff wage is barely discernible on the shop floor." (Rutland, 1986, p. 195).

mismatches between job preferences of potential employees and requirements of prospective employers (Gloeckner, 1986; Marnie, 1986); at the same time, centrally determined wage guidelines may have been insufficient in explaining workers' job selection which was influenced by opportunities to earn bonuses, and extra incomes elsewhere (Malle, 1986)⁵. In any case, the planners persisted in managed labor allocation, and differentiated wage scales (with periodic variations) until their relaxation in the late 1980s under Gorbachev and their abandonment after 1992.

During the Stalinist industrialization drive (1928-1940), "... elements of compulsion were present in the system of labour allocation. Millions of forced labourers obviously had no control over the place and nature of their work. ...The general picture, however, is one of an employment policy still in practice based on a free labour-market. For the majority of Soviet workers in the 1930s, the existence of a highly authoritarian government, willing to use harsh sanctions against its population to achieve its ends, nonetheless did not mean the end of freedom to choose their place of work. The factor which eventually inaugurated the era of compulsory labour direction was not Stalinist industrialisation but war." (Barber, 1986, p. 63).

Even under Stalin's authoritarian regime, Soviet planners sought to resolve the dilemma between socialist egalitarianism and market incentives by tipping wage policies in the direction of increased rather than diminished (administered) wage differentials (Bergson, 1946; Yanowitch, 1963; Chapman, 1970, pp. 7-14). "There is evidence that wage differentials were wide and increasing from the early 1930s up to and including the Second World War" (Chapman, 1991, p. 179). There was, however, a social contract, which consisted of the provision of a guaranteed job and "...low and stable prices for food and housing in return for showing up at work, docility and obedience on the part of the workers." (Chapman, 1991, p. 177).

The wartime legislation via which state agencies could freeze workers in their jobs or force them to change their occupations was repealed in 1954. "Once workers were free to change

⁵"Material rewards (i.e. wages) consist of two elements: the tariff wage (about 70 percent of total earnings) and the various bonuses for overfulfilment, innovation, and so on." (Rutland, 1986, p. 195).

jobs, it became necessary to review the entire structure of wage rates, to bring relative wages into accord with changes that had occurred in the demand for and supply of labour of different sorts and to make the wage system more efficient as an allocator of labour.” (Chapman, 1991, p. 179). The reforms consisted of changes in the centrally determined basic wage and salary rates and in the rules for compensation for conditions of work, geographical location, and for incentive pay. As a result, an effective minimum wage was introduced in 1957 and a virtual ceiling was set on upper level salary rates. (Details are in Chapman, 1991, pp. 179-180.) These changes had a dramatic impact: “ In industry, salaried workers earned 46 per cent more than wage earners in 1955 but this advantage had fallen to only 9 per cent in 1980 and 6 per cent in 1985. ...By the late 1970s and early 1980s, some Soviet economists had begun to suggest that wage differentials had become too narrow to provide effective incentives. Concern was increasingly expressed over the fact that some engineers and others with professional education were taking blue-collar jobs for better pay, thus wasting their training.” (Chapman, 1991, p.180).

While the skewed wage structure resulted in perverse choices by workers, they nevertheless changed jobs in response to perceived advantages from alternative employment. (This feature is discussed below.) Of greater concern however were problems arising from the “taut” economic plans which plagued factory managers in their workforce utilization. The goal of transforming the economy into “a gigantic building site for projects of capital construction” via physical output targets imposed from the top on managers of factories (especially in machine building and raw materials) created excess demand for inputs⁶ and labor.⁷ Managers tended to

⁶The reasons for this are well known. “The more inputs the enterprise can have allocated to it, the better, so far as the management is concerned. If these inputs are incorporated in the production plan, they will be covered in the enterprise’s financial plan, even if planned losses are involved. In general, the enterprise cannot be penalised for high costs incorporated in its plan: there are no competitors to undercut it, and no fear of business failure.” (Hanson, 1986, p. 88).

⁷“Soviet planners regularly underestimate labour demand by large amounts. In other words the sum of enterprise labour-force plans (certainly after ‘corrections’ within the plan period, and probably even after that) tends to exceed any aggregate labour-force plan for the state sector as a whole. The actual demand for labour therefore probably exceeds the available supply. Vacancies outnumber unemployed job-seekers; or to put it differently, the average vacancy remains unfilled longer than the average job-seeker remains out of work.” (Hanson, 1986, p. 94).

hoard labor and conceal labor reserves. (Harrison, 1986, pp. 74-75). They expected to profit from this practice. “First, the larger the enterprise labor force, the higher the basic pay scales of management. Second, labor is worth hoarding anyway because of the irregularity of material supplies and the associated need for ‘storming’; the possibility that your plan target will be increased during the year; the possibility that the local Party secretary will call up unexpectedly and requisition some of your employees for road-building, road-sweeping, harvest work and the like; and the fundamental fact that bonuses are in practice linked above all to total output. Third, the continued predominance of the output target... has a further effect on labour demand.” (Hanson, 1986, pp. 88-89). “To the Soviet manager the additional labour has no effective cost since his budget constraints are soft, not hard.” (Hanson, 1986, p. 94). The economy was thus characterized by overall labor shortage and varying amounts of hidden labor reserves in factories.

Did the Soviet workers manage to beat the system as well? Up to a point. Labor turnover, defined to include workers who quit their jobs voluntarily or who were dismissed for violations of the work rules, had been persistently high and steady in the post-Stalin era beginning the mid-1950s. Such turnover, which Soviet sources described as arising from “dissatisfaction with working conditions,” included two out of every ten industrial workers and three out of every ten construction workers (Powell, 1981, p. 101). Younger workers were far more apt than their older colleagues to quit their jobs. “In the [former] RSFSR, for example, workers under thirty years of age are responsible for 60-65 percent of all labor turnover...” (Powell, 1981, p. 109). One reason may be that approximately one out of every five workers under thirty did not do work for which he or she was trained (Powell, 1981, p. 111).

It is doubtful if the high turnover by labor (including dismissals of delinquent workers by management) in search of higher pay or better housing or more attractive job environment prompted more efficient use of labor resources by managers or more productive work effort by workers. Both were constrained by systemic factors: the former concentrated on fulfilling output targets without concern for wage-bill minimization and the latter lacked the incentives “to put their best foot forward” in view of the endemic shortages of consumer goods. The social contract had degenerated into “they pretend to pay us and we pretend to work for them.” There was job security but poor utilization of labor resources by managers and workers.

Women and Employment Policies Until 1985

Within the overall pattern of job security marked by poor utilization of the workforce and its significant turnover, the participation of women raised specific issues.

Two features in this regard are noteworthy. First, the Soviet era participation rates of women in the workforce⁸ had been among the highest in the world. The overall labor participation rate increased from 65.80 percent in 1950 to 80.52 percent in 1979 having stabilized at that level thereafter. Women's participation rate went up from 59.9 percent in 1950 to 83.1 percent in 1979. "In the Soviet Union the participation rate for women between 20 and 40 years of age, the time of child-birth and care , is ... very high. In 1970 it reached 85.1 per cent for women between 20 and 29 years of age and 91.2 per cent for women between 30 and 39 years old." (Pietsch, 1986, p. 179). Second, in 1970 (during which the sex composition of the labor supply was close to normal), women accounted for 50.7 percent of employed compared to 48.3 percent in 1960. "This was at a time when the proportion of women in the working-age population was steadily falling, continuing the post-war trend, as normal demographic patterns were re-asserted." (Kostakov, 1991, p. 88).

The high female participation rates (continuing after the breakup of the former Soviet Union in December 1991) had resulted from several factors, among them official policies to draw housewives into the workplace in the face of mounting labor shortage, continuing economic pressures on their part to earn a second income, and above all, the ideological emphasis on the intrinsic value of work outside the home.

At the same time, family chores took an unprecedented share of working women's time as they continue to do so now: "Although men and women devote roughly equal time to paid employment and physiological needs, working women devote on average 28 hours per week to housework, compared to about 12 hours per week for men; it has also been found that men have 50 percent more leisure time than women." (Lapidus, 1981, p. 134). Part-time employment was

⁸The labor participation rates are calculated by dividing the people employed in state enterprises and administration and collective farms with the population between 16 and 54-59 years of age.

rare because enterprise and administration managers were not interested in such arrangements. Less than 2 percent of employed women had part-time jobs in the late 1980s (Kostakov, 1991, p. 90). Again, women had lower enrollment rate in programs to raise professional qualifications and add to their technical skills; women industrial workers also participated less frequently in sociopolitical activities such as attending factory production meetings or becoming Communist Party members (Lapidus, 1981, p. 126). The obligatory dual roles inside and outside the home left women less time for upgrading their skills and advancing their job prospects via networking. According to one survey, 85 percent of the male-female earnings differential resulted from unequal opportunities for women to advance their careers. (Details are in Chapman, 1991, p. 186.) There is no evidence that the situation has changed in that regard at present.

But were women discriminated against? Cultural norms reinforced by official policies suggested sexual identification of occupations as “men’s work” and “women’s work” based on biological and sexual stereotypes. Of the 1,100 occupations for which training had been offered at Soviet technical-vocational institutions for men and women, only 714 had been available to women (Lapidus, 1981, p. 129) At the same time, the terms of female (and not male) employment had been adjusted by legislation to accommodate household and family responsibilities “as primarily and properly the domain of women.” Thus, women and women only had dual roles. (Lapidus, 1981, p. 130).

Explicit gender discrimination in the former Soviet and current Russian workplace is however difficult to track down. Was the legal requirement of equal pay for equal work implemented by ensuring that women were placed in positions matching their skills and training? Doubts persist. “Women are ... frequently overqualified for the jobs they hold. A recent study of industrial enterprises in Taganrog found that 40 percent of all female workers with higher or secondary specialized education occupied low-skill industrial positions, compared to 6 percent of comparable males.” (Lapidus, 1981, p. 128).

The continuing result of the compulsory dual role for Soviet women has been their overrepresentation in jobs with low skill, less responsibility and authority, and more flexible work schedules. Some occupations have evolved and remained female. “The largest share of female labor in the Soviet economy today can be found in agriculture;...In industry, as in the economy as

a whole, women are heavily concentrated in a relatively small number of areas and are significantly underrepresented in others. Although half of all industrial workers are women, three industrial branches--machine building and metalworking, textiles and the food industry--account for 70 percent of all female industrial development; women comprise over 80 percent of food and textile workers and over 90 percent of garment workers, but less than 30 percent of the workers in coal, lumber, electric power, and mineral extraction. ...even as women begin to enter the middle and upper ranks of industry, they continue to predominate in low-level, unmechanized, and unskilled jobs. ...Between 1962-69, women accounted for 96 percent of the growth in manual employment; women still account for 80 percent of the auxiliary workers in industry, 80 percent of those engaged in packing, and 86 percent of all women workers doing grading and sorting. “ (Lapidus, 1981, pp. 125-126).

The uneven distribution of women in industry and occupations and their underrepresentation in jobs of high skill and responsibility resulted in their relatively lower earnings, 65 to 70 percent of male earnings. In particular, their underrepresentation in industrial branches with high wage levels and wide differentials--such as heavy industry and construction--and their high concentration in light industry and services with low wage levels and narrower differentials contributed to the earnings gap (Lapidus, 1981, p. 127). “In construction, where women constituted 28 percent of the labor force in 1975, monthly earnings averaged 176.8 rubles; in public health and physical culture, where females make up 84 percent of the work force, they averaged 102.3 rubles.” (Lapidus, 1981, p. 127).

At the time of Gorbachev's rise to Soviet leadership in March 1985, Soviet women's participation rate in the economy was inordinately high at about 85 percent; their employment rate was a little over 50 percent. However, with involuntary dual roles at home and in the work place, limited opportunities for skill upgrading and job networking, women were heavily concentrated in female jobs with low wages and narrow wage differentials. Their prospects of benefiting from the limited labor market and wage policy changes under Gorbachev, and of safeguarding their job security or advancing their job opportunities under the escalating labor market changes beginning January 1992 were conditioned by this dominant feature.

Education, Age, Location and Employment Until 1985

Did the employment policies until 1985 of administered wage scales (supplemented by incentive payments) and planned targeting of labor requirements by various categories result in matching the resulting supply with demand?

We first discuss the connection between education and employment.

Education and Employment: There was mismatch between the aspirations of young, school-leavers and the job opportunities available to them. In 1980, there were “approximately 2.3 applicants for every *vuz* [higher education institution beyond the secondary school], and approximately 40 percent of all school-leavers ...entering the labor force with no vocational training and low motivation for the blue-collar production jobs ... open to them.” (Marnie, 1986, p. 217). As a result, there was high labor turnover (mentioned earlier) and low work incentive among the young.

At the same time, the skills of the high-level cadres among the engineering and technical personnel (i.e. *Inzhenerno-tekhnicheskie rabotniki*, or ITR) were not matched with the needs of industry. The situation was not only marked by discrepancies arising from the excessively narrow profiles of the specialists and the needs of the workplace but also from highly qualified technical personnel working in blue-collar occupations. These distortions implied losses on educational investments, lower job satisfaction, and higher job turnover among qualified specialists doing low-level work.

For given education levels, the employment prospects of the older workers had pluses and minuses.

Age and Employment: Young, newcomers with better educational qualifications lacked management savvy and experience which put them at a disadvantage vis-a-vis older employees. Even the ITR management cadres lacked organizational and leadership abilities (Gloeckner, 1986, p. 226). They feared responsibility and conflicts in the workplace. Senior, more experienced staff had an edge in getting promoted to managerial-technical jobs which occasionally proliferated in large factories because top management used its job placement

autonomy to promote old comrades and create new senior positions: positions of senior engineers, senior specialists, and chiefs of sections and bureaus with flexible labor norms proliferated. At the same time, older workers also got shunted to clerical jobs and auxiliary plants (Malle, 1986, p. 131).

Workers, young and old, had opportunities to upgrade skills, improve job prospects, and prevent demotions. "Each year about 6 million workers learn a new profession and more than 20 million study to improve their qualifications. More than 70 percent of the new entrants are trained on the job by enterprises." (Malle, 1986, p. 131).

The quality of training however varied depending on enterprise size (larger factories had better facilities), type of industry (the defense and export sectors and the automobile industry had greater incentive to promote skills) and management interest (managers were interested in maintaining production rhythm and preventing potential labor turnover among better trained workers). In general, young male specialists were more inclined to take advantage of opportunities to upgrade their skills than young entrants in the job market, female workers and older employees.

Finally, employment prospects improved *ceteris paribus* with ability to migrate to places with better job availabilities.

Employment, Migration and Regional Variations

Labor migration in the Soviet Union was unprecedented in the 1930s induced by the outward push of farm collectivization and the urban pull of industrialization. The policies consisted of channeling the flow of migrants in desired regions and industries and preventing excessive labor turnover which characterized the period. Resident permits (*propiski*) were compulsory for migrating to towns and urban settlements. Among the methods of directing labor movements were organized recruitment (*Orgnabor*), agricultural settlement, compulsory placement of graduating students, and social exhortations (*obshchestvennye prizvyvy*) pushed by, among others, the Communist youth organization (Komsomol). Most of these controls and migration channels except the passport requirement were relaxed in the early 1950s after the Second World War.

Among the consequences of these policies for the purpose of our analysis, the following are noteworthy:

Despite the passport system, close to twenty-five million people had migrated to cities during 1956-70 (Helgeson, 1986, p. 148). But the pace of rural out-migration had slowed from 1976 which marked a new trend. People moved within a region often commuting in well-settled urban areas. Population growth in large cities, among them Moscow and St. Petersburg, had slowed, the result of administrative entry arrangements in both, yielding to faster growth rates in medium-sized towns.

Young adults were energetically recruited via Orgnabor channels and Komsomol appeals to move to regions targeted for rapid growth and specific projects. The labor shortage in Western Siberia endowed with oil, and of the resource-rich Far East was ultimately overcome via such methods (Helgeson, 1986, p. 163). Population settlements in the climatically hostile North-East, and the extreme north to develop the nickel industry, for example, subsequently proved to be economically unviable decisions requiring population transfers currently.

The cities continued to be the magnets drawing young adults in search of higher education and better training, and qualified specialists looking for job opportunities, cultural activities, and marriage partners. As a result, large enterprises in cities were overmanned by specialists who chose to work as blue-collar workers whereas new plants in remote regions with harsh climate were short of such personnel.

The deliberate construction of self-contained settlements especially in the defense industry towns of Armaz, Krasnoyarsk, and Chelyabinsk in Western Siberia have created massive problems of job security and potential job losses among highly skilled engineers and technicians in this region in view of the drastic cutback of military items. These company towns also lack the financial and managerial infrastructure of Moscow and St. Petersburg which could diversify job opportunities for the skilled unemployed.

These Soviet era employment practices and their legacy suggest that women and older workers, settled in low-level jobs and less prone to upgrade their skills, were poorly equipped to survive potential job losses resulting from competitive market pressures. Skilled male workers in urban factories especially in Moscow and St. Petersburg were likely to surmount them by

landing better jobs. Workers in general employed in the economically unviable regions and industries and in defense factories faced uncertain labor market prospects as the market economy reforms advanced.

These reforms relating to employment and labor market practices, slow under Gorbachev gathered speed after 1992.

Gorbachev and Labor Market Reforms

The main features of the wage reform under Gorbachev, which were introduced in 1986 and completed in 1989 (except in agriculture) consisted of revisions in wage differentials and centrally mandated wage increases requiring enterprises to finance them from their own funds. (Details are in Chapman, 1991, pp. 180-184.) The self-financing of wage bills was intended to discipline enterprise cash flows, compel managers to release hoarded labor and improve the productivity of the remaining workers.

At the same time, cooperatives and individual labor activity, and leasing arrangements in farms and factories were multiplying, the former creating alternative employment opportunities, and the latter providing incentives to worker collectives. There were no direct controls over incomes and wages in cooperatives. Income from individual labor activity was subject to personal taxation (Chapman, 1991, pp. 188-189).

Three results followed from these measures. First, overall earnings and earning differentials increased especially among cooperative members. By 1987, the rate of growth of employee earnings in industry had outstripped the rate of growth of industrial productivity. Industrial enterprises had failed to exercise hard budget constraints and had to be bailed out via subsidies from the state budget which in turn added to the budget deficits (Desai, 1989, pp. 4-5). Second, overall unemployment in the economy (of those without a job and seeking employment) stood at 2 million or under 2 percent of the employed in 1989 (Chapman, 1991, p. 183). In 1988, layoffs however were much lower than labor turnover: "In industry, the rate of labour turnover has been nine times greater than that of workers' release (12.6 and 1.4 per cent of employment respectively)." (Maslova, 1991, p. 136). Finally, the layoffs initially affected women and workers nearing the pension age, and skilled workers who could not find alternative jobs via placement

services. Labor turnover had the expected pattern: between 1985 and 1987, people under 30 had become more mobile than those over 30; again men were slightly more mobile than women but women's mobility had increased while men's had decreased, the former however remaining lower than the latter. (Details are in Maslova, 1991, pp. 137-138.)

The reforms initiated in 1992 by Acting Prime Minister Yegor Gaidar were qualitatively different with critical implications for job security and employment layoffs in the economy.

Implications of Post-1992 Reforms for Russian Labor Market

These reforms increasingly enforced hard budget constraints on farms and factories by sharply curtailing budgetary support. The privatization of factories (which were to begin restructuring by mid-1995) was also aimed at belt tightening and release of redundant workers by managers. At the same time, privately owned businesses in small-scale industry, trade and services were calculated to create new jobs. Wages and salaries of employees in the state sector and pensions to retirees were raised from time to time. Employee compensation in the rest of the economy was to be determined by employers in response to market forces.⁹

How have these dramatic changes influenced Russian workers' employment situation and job prospects? While the above aggregate patterns paint a broad picture of labor market trends during the transition, they give us only limited insight into the demographic distribution of the costs of the transition. Furthermore, aggregate statistics do not help us uncover the causes of these trends. In this paper, we evaluate the impact of the transition on workers' employment experiences from various perspectives by analyzing issues such as workers' view of job security and alternative job availability; the duration of their nonemployment¹⁰; the likelihood of their

⁹Between 1992 and 1995 mobility was high :Goskomstat estimated that approximately 31 percent of employees in industry left their job per year (see Gimpelson, p.12).

¹⁰Our measure of "nonemployment", i.e. how long it has been since a respondent (who is not currently employed) last worked, is based on the survey question "How many months ago did you leave your last place of work?" While we would like to have a measure of unemployment duration, i.e. the length of time that the individual has been without a job and has been actively searching for employment, we do not have information on job search by respondents prior to 1992, the first year of our data. (We could however create a measure of unemployment duration for relatively short spells, i.e. spells that began after 1992.)

being unemployed and being forced to take unpaid leave and the duration of these leaves; their hours of work and the prevalence of short-time work schedule; the likelihood of workers quitting their jobs or being laid off; and their job tenure with current employers. We investigate these issues as they affect women (relative to men) and workers of different ages with varying education and in different occupations and regions.

The answers to these questions based on household survey data, which we discuss immediately below, help us provide precise and multi-faceted measures of the social costs of Russia's transition to a market economy.

II. Data and Analytical Framework

Data

Our empirical analysis is based on the Russian Longitudinal Monitoring Survey which is a nationally representative household-based panel of the Russian people. The RLMS project has currently gone through two phases, each phase comprising a panel of households with interviews conducted for every member of the household. Phase I consists of four rounds of interviews carried out during 1992 and 1993, and provided information on 16,641 individuals from 6,334 households. Phase II is based on a different set of households (11,284 individuals from 3,750 households in Round V) and a modified sampling scheme, and has undergone three rounds of interviews, Rounds V-VII, each fielded in the Fall of 1994, 1995 and 1996 respectively. The detailed information of demographic and employment characteristics in the data enables us to systematically analyze the labor market experiences of the Russian people as the transition from a planned economy has proceeded.¹¹

Analytical Framework

The survey respondents were asked a series of questions dealing with their concerns about their labor market prospects, along with questions dealing with their actual employment

¹¹Detailed information on the structure of the survey, including the questionnaires and the data sources may be obtained over the Internet at <http://www.cpc.unc.edu/rlms>

experiences. Among these features are the respondents' worries about job loss, their hoped-for chances of finding a similar job in the likelihood of plant closure, the frequency and duration of unpaid leave, monthly hours of work and the occurrence of short-time schedules, the length of nonemployment and occurrence of unemployment, experiences with voluntary and involuntary separations from their prior job, and job tenure measured as the length of employment on the current job.

We first use their responses for describing these features for each year from 1992 to 1996 for males and females (in Tables 1a-1c). Women however may be unfavorably placed with regard to these features not only because of gender but also gender-related factors such as age, education, type of occupation and job location. We therefore analyze for each year the gender and other demographic differences in our dependent variables in a multivariate context by introducing additional explanatory variables based on the respondents' age, education, employment in an organization fully or partly owned by the government, occupation (from among nine possibilities) and location (in one of the eight regions of Russia). The dependent variables used are: job security (the variable *chanj*) and perceived prospects of finding a similar job in case of layoff (the variable *findjb*) in Table 2; voluntary and involuntary job loss (the variables *quit* and *layoff*) in Table 3; the likelihood and duration of compulsory unpaid leave (the variables *complv* and *dayslv*), and the length of time that the respondent has worked for the current employer (the variable *tenure*) in Table 4; monthly hours of work (the variable *hours*) and the likelihood of being on a short-time schedule defined as working forty or fewer hours per month (the variable *shours*) in Table 5; and 5 nonemployment spell duration for the currently jobless (the variable *udur*) and the likelihood of being unemployed (the variables *unem_b*, *unem_g*, *unem_s*) in Table 6.

Our purpose in the exercise (of Tables 2 to 6) is to analyze whether women's position with regard to job security and other variables of concern (from Table to Table) in the years 1992 to 1996 continues to be unfavorable when other potentially gender-related explanatory variables are introduced in the specifications. In Table 7, we extend this analysis to see whether there is a worsening *trend* in women's relative situation with regard to each of our measures of employment security, turnover, and unemployment analyzed in Table 2-6.

We analyze our results by first presenting the gender estimates of the multivariate specifications beginning with job security as the dependent variable (Table 2), immediately turning to the question of whether the job security of women relative to men had worsened over time (Table 7, columns 2 and 3). Our analysis of the other dependent variables has a similar sequencing of discussion of the gender differentials followed by that of its *trend*. The definitions of the dependent variables are stated in Appendix Table 1. The explanatory variables are defined and briefly described in Appendix Tables 2 and 3.

Descriptive Features

Tables 1a-1c below report means (or proportions) and standard deviations of the dependent variables by gender and year. The survey questions that were used to generate these variables are given in Appendix Table 1.¹²

With regard to gender differences, we see that women were significantly more concerned than men that they might lose their jobs (*chanj*); significantly more uncertain than men that they would be able to find comparable employment if they lost their jobs (*findjb*); and significantly more likely to have been forced to take unpaid leave (*comply*). For example, 8.2 percent of currently employed women in 1996 had been forced at some time on their current job to take unpaid leave, whereas 7.1 percent of currently employed men had been so forced.¹³ These differences are present in the years under consideration except 1992, the first year of the transition, for which information on compulsory leaves was not available. We also see that in 1993, soon after the start of the transition, there was no gender difference in the duration of compulsory leaves (*dayslv*). Such leaves, which, on average, were significantly longer for men in

¹²When we take the mean of a dummy variable, we get the proportion of people in the sample with the attribute that the dummy reflects. For example, the variable *quit* is a dummy variable which is equal to 1 if a person quit his or her job between 1992 and 1993, and is equal to zero if he or she did not quit the job between 1992 and 1993. Hence, 0.082 in the top panel of Table 1a, in the column labeled 1992, indicates that approximately 8 percent of the females in our sample, who were employed in 1992, quit their job between 1992 and 1993.

¹³Similar cursory interpretation of the values for the variables *chanj* and *findjb* is problematic because the responses follow an ordinal scale from 1 to 4 for *chanj* and from 1 to 9 for *findjb*.

1994, had reversed their pattern in 1995¹⁴ and then achieved equality in 1996: while women experienced leave durations in 1995 of about 60 days on average in contrast to 40 days for men, in 1996 both men and women experienced leaves of 53 to 54 days on average.

In addition to compulsory, or administrative leaves, other forms of hidden unemployment (or underemployment) included reduced hours and short-time work. We see in Table 1b that, among people with jobs, women worked fewer hours on average than men in all years, and while average monthly hours of work declined between 1992 and 1993 for men and women, hours largely trended upward from 1993 through 1996.¹⁵ We also see that the likelihood of working a short-time schedule, defined as 40 hours or less on average per month, was significantly greater for women than for men in all years. Again, the prevalence short work hours followed an inverted U shape for men and women, peaking in 1994 for both, with essentially no difference in this pattern between the start of the transition (1992) and 1996 except for a significant (monotonic) decline between 1994 and 1996.

Among those not employed at the time of each survey, we see that the duration of nonemployment (since their last job) was significantly longer for women than for men in all years: approximately 20 months for women and 16 months for men in 1995 and 1996.¹⁶ Women also experienced a higher occurrence of unemployment in all years and for a number of alternative definitions of unemployment.¹⁷ Among the reasons for job separations, we notice

¹⁴This pattern is consistent with an increased reliance on laying off women as a way of absorbing the unemployment shocks associated with macroeconomic brakes and enterprise restructuring during the transition.

¹⁵These calculations of work hours only relate to the respondents' main job and ignore the influence of secondary jobs: increased multiple job holding during the transition would tend to mitigate our reported trend in hours. In future work, we plan to analyze the patterns of multiple job holding over the transition.

¹⁶Our analysis of nonemployment duration focuses on durations of five years or less and is limited to respondents not older than 55 years. We impose these restrictions because longer durations may well reflect permanent labor force withdrawals and older respondents are more likely to have retired.

¹⁷This does not hold for the BLS (U.S. Bureau of Labor Statistics) unemployment definition in 1993 due to a surprising dip in female unemployment.

that women had a higher occurrence of layoffs¹⁸ than men in 1992 and 1993 (in both years, the difference however is statistically not significant), and in both years, men had a significantly higher frequency of quits than women. Perhaps women were forced to leave jobs whereas men quit voluntarily. Finally, among currently employed workers, women had significantly longer tenure on their current jobs than men in 1994, 1995, and 1996: in 1996, the average tenure was approximately 92 months for women and 77 months for men representing over a year's gender difference in tenure on the current job.¹⁹

Turning to the persistence of unfavorable features of the labor market during the transition, we notice that, among the statistically significant measures for women and men, there was an increase in fear of job loss; an increase in the uncertainty of finding a comparable employment if they lost their job; an increase, though not monotonic, in the likelihood of being forced to take unpaid leave; a monotonic increase in the duration of compulsory leave for women, and a nonmonotonic and weaker increase in duration for men; an increase in nonemployment duration; and an increase in the percentage of job separations due to quitting by men during the early years of the transition. Finally, we also see that the average tenure on the current job declined between 1994 and 1996, possibly reflecting the influence of macroeconomic brakes and industrial restructuring and attendant job loss, and increased labor mobility in response to market incentives.²⁰ These descriptive features in Tables 1a-1c indicate distinct gender differences in perceived and actual job stability. In order to determine whether these differences were in fact due to gender per se, or due to other factors that influenced job security and which were correlated with gender (for example, gender differences in occupation), we now

¹⁸The likelihood of layoffs for women is based on the percentage of women who were not employed at the time of the survey but who had held paid jobs at some time in the past and who had left their previous jobs on account of being laid off. Such a comparison of the occurrence of layoff, which is conditional on a prior job layoff for women, does not allow us to say if women were *in general* more or less likely than men to experience layoffs.

¹⁹Data on job tenure was, unfortunately, only collected in Phase II (1994 to 1996).

²⁰The question of whether these increases over time constitute statistically significant trends in the dependent variables (such as job loss) and their relative gender differentials is analyzed in Table 7 on the basis of statistical tests reported in the Table.

turn to a multivariate analysis of these patterns in Table 2-6.

III. Demographic, Occupation and Job Location Differences and and Multivariate Analysis

We begin with gender differences in concerns about job security and job replacement followed by an analysis of trends in these differences over the period (Tables 2 and 7).

Gender Differences in Job Security and Job Replacement Concerns

A positive (negative) parameter in Table 2 indicates a greater (lesser) concern about job loss. For example, the positive “female” coefficient relating to the dependent variable *chanj* (column 2) indicates that women were more concerned that they might lose their job, whereas the negative “education” coefficient indicates that people with higher levels of education were less concerned that they would lose their job. Similarly, a positive (negative) parameter estimate relating to the dependent variable *findjb* (column 3) indicates a greater (lesser) concern of finding comparable reemployment conditional on a closure of the employee’s enterprise. For example, the positive “female” coefficient indicates that women were more concerned about finding comparable reemployment, and the negative “education” coefficient indicates that people with higher education were less concerned about finding a comparable job.

With these qualifications, points in mind, we see from the increasingly positive coefficient estimates of the year dummies (*dum1994* through *dum1996*) in Table 2 that, between 1992 and 1996, the respondents were increasingly concerned about job security, job loss and reemployment prospects.²¹ We also see that when we control for age, education levels, broad occupational groups and location, women were significantly more concerned than men about job loss and their prospects of finding comparable employment if they lost their jobs.²²

²¹We have excluded 1993 from our multivariate analysis because the RLMS did not include occupational questions in Round 3.

²²These two questions are related. In particular, concern over job loss per se may simply reflect the effect of the introduction of a market economy requiring labor resources to move in market-determined directions, and may not imply a pronounced hardship for labor if reemployment prospects are good. That is, job security may decline but labor market security may take its place if a strong economy provides good alternative employment prospects. The questions examined in Table

How did women's concern about job loss and reemployment prospects relative to similar concerns by men vary over time? Table 7 (columns 2 and 3 in the top panel) answers this question. The estimated coefficients of the interaction between the female and year dummies reflect changes over time in gender differences with regard to concern about job loss and reemployment prospects. An insignificant interaction coefficient for a particular year implies unchanged gender difference in the dependent variable between that year and the base year (1992). For example, the parameter estimate of 0.051 (column 2, row 2) is insignificant, indicating that there was no change between 1992 and 1994 in the relative concern of women and men about job loss. The significantly negative coefficients of -.069 and -.017 (rows 3 and 4) indicate that the greater concern about job loss expressed by women in 1992 (relative to that expressed by men) actually diminished in 1995 and 1996, i.e. gender differences in concern about job loss diminished since the start of the transition. Similarly, the estimated interaction effects (column 3) suggest that the greater concern over reemployment prospects expressed by women relative to men in 1992 declined more or less monotonically over the course of the transition.

In other words, while women felt at greater risk of job loss and alternative job prospects than men throughout the five transition years, and their fears were rising over time, men's concerns increased more rapidly leading to a partial convergence between the sexes in their worries over job loss and reemployment prospects. It would seem that, in the earlier stages of the transition, men might have felt that their jobs were at a lower risk because women were more likely to be laid off first if employment fell; and/or men might have been more optimistic than women about the quick emergence of private activity, and might have anticipated a more robust growth in demand for male labor in the emerging private sector.

In conclusion, our estimates of employment concerns of Tables 2 and 7 suggest a growing anxiety by workers over the 1992-96 period regarding job security and reemployment prospects with a greater concern evidenced by women yet with a stronger growth over time in

2 reflect people's concerns and not necessarily their actual experiences. However, to the extent that these concerns correctly mirror experience, it would seem that job market security is not sufficiently robust to replace the traditions of job security that were provided under the planned regime.

concern evidenced by men.

Job Security and Job Replacement Concerns, and the Impact of Demographic, Occupational and Location Variables

We first analyze the effect of education and age on people's concerns about job security and job replacement based on the estimates of Table 2.

Education and Age and Employment Concerns: The "education" estimates of Table 2, based on a series of dummies (the variables *profco* through *ins_g* indicating generally higher levels of educational attainment), show that people with higher education were generally less anxious about their jobs and labor market prospects (a negative sign suggests less concern in this regard). This result is to be expected as the economy increasingly tended to reward skills more than position and seniority per se.²³ We also see that older individuals were more anxious about their market prospects than younger respondents.²⁴ The transition to a market economy seems to have weakened seniority job rights. The greater anxiety of older workers regarding labor market prospects might also result from their recognition that their skills were less valued than the newer educational vintage of younger workers in view of the introduction of new technology in response to market forces.²⁵

Regional Variations in Labor Market Prospects: We adopt Moscow and St. Petersburg as the

²³See Rutkowski (1996) for evidence that returns (wages) to education increased during even the early years of the transition in Poland, and Brainerd (1996b) for evidence of increasing returns to observed skills in Russia, the Ukraine and several East European transition economies. Again, these education patterns hold for men and women: in regressions not shown (and available on request), we found consistently insignificant effects from the interaction of education and gender.

²⁴The insignificant quadratic term for the *findjb* regression indicates a linear increase in concern with age, while the significantly negative quadratic age term in the *chanj* regression indicates that concern about job loss rose until about 45 years and then slowly declined.

²⁵These results are also consistent with the Polish experience; Rutkowski (1996) reports that younger workers were rewarded with higher wages during the transition as the skills of older workers had depreciated. In future work, we plan to separate these age effects into specific age categories in order to analyze these concerns in different age groups.

reference regions for estimating the regional parameters in all of our multivariate tables.²⁶

Therefore, coefficient estimates of Table 2 reflect average values in each region relative to those held by people in Moscow and St. Petersburg. A positive (negative) coefficient of the regional dummy j (column 2) indicates that, on average, people in region j were more (less) concerned about job loss than people, on average, in Moscow and St. Petersburg. We notice from the significantly positive coefficients of the regional dummies that concern about job loss and reemployment prospects were greater in all regions relative to the concern felt in Moscow and St. Petersburg.²⁷ As the transition proceeded, respondents' concerns over job security and alternative job possibilities varied from region to region depending on regional industrial structures and potential for diversification. A striking result from the estimates (column 3) is that people in all regions were relatively more concerned about finding alternative employment (on losing their current job) than on losing their present occupation.

Occupational Differences in Labor Market Concerns

We have selected the job description "Service Worker, Market Worker" as the reference occupation category in order to analyze the labor market impact of the transition on different occupational groups relative to this service and trading group which has emerged as the most vigorous and market-oriented.²⁸ As might be expected, the percentage of workers employed in

²⁶Unfortunately, regional comparisons are limited to the eight regions identified in the RLMS (see appendix Table 1 for details).

²⁷When we look at changes in these regional effects for each year (not shown here, but available on request) we find that in 1992, compared to Moscow and St. Petersburg residents, people in a number of regions, on average, exhibited similar concerns about job security or actually felt less concern about job security and market prospects. However, the anxiety over job loss increased in all regions relative to concern in Moscow and St. Petersburg from the initial to the final year of the transition.

²⁸The RLMS provides information on a respondent's occupation based on the International Standard Classification of Occupations (ISCO-88) at the one- and two-digit levels. In this article, we investigate occupational differences at the one-digit level postponing consideration of two-level analysis for later work. (Appendix Table 2 provides information on occupational titles.) Glinskaya and Mroz (1996) discuss wage comparisons in Russia at the one- and select two-digit occupational

this sector (Occupation 5) increased monotonically from 1992 to 1995 with a slight decline in 1996 as shown in Appendix Table 2.

We take first the fear of job loss by occupation in Table 2 focusing on the statistically significant estimates. Government employees and senior managers (Occupation 1), professionals (Occupation 2), technicians and associate professionals (Occupation 3), in addition to military employees, were less concerned about job loss.²⁹ Recall that for each occupation, the increase or decrease in concern over job loss is relative to the most, market-oriented occupation in the service and marketing category. Respondents in the remaining occupations were generally as worried about job loss as the most market-oriented group: these estimates are statistically not significant and the null hypothesis cannot be rejected. Except for government employees and senior managers it is not clear, however, from the estimates (column 3) if they felt less concerned (than their counterparts in the service and marketing sector) of finding alternative jobs. Again, all occupation groups were more concerned about their relative (to Moscow and St. Petersburg) reemployment prospects than of the relative likelihood of losing their jobs. People felt less insecure about losing their job than about finding another job on losing their current employment.

The transition also raises the critical issue of job layoffs (involuntary job separation) and quits (voluntary job separation) which we analyze based on the estimates of Table 3.

Patterns of Voluntary and Involuntary Job Separations

These estimates, which are calculated for those not employed at the time of the survey,³⁰

levels.

²⁹The variable “gov” is distinct from occupational group 1 that includes legislators, as “gov” indicates that the government is the sole, or partial owner of the enterprise that the respondent is currently employed at. Workers in these firms were generally more concerned about job loss (Table 2, column 2) than other workers, but these differences were only significant in 1992 and 1995. Similarly, workers in government-owned firms (Table 2, column 3) were more concerned about reemployment likelihood except in 1996.

³⁰This variable must be interpreted with caution because it is coded from individual responses regarding the reason for job separations (which may be inaccurate) rather than from administrative records of the employing agencies.

are based on information relating to separation from last job due to the respondents being laid off as result of plant shutdown or reorganization, or staff reductions; and due to the respondents quitting the last job for personal or other reasons.³¹ A positive (negative) parameter in Table 3 (column 2) indicates a greater (lower) likelihood of having quit a job. For example, the negative “female” coefficient in the *quit* regression indicates that women were less likely, *ceteris paribus*, to have quit their jobs between 1992 and 1993. The parameter estimates in the *layoff* regression in the last column similarly reflect the effect of each attribute on the likelihood that a respondent was laid off from his or her job between 1992 and 1993. For example, the insignificant coefficient associated with the female dummy variable indicates that there was no difference in the likelihood of layoffs (once again, *ceteris paribus*) for men and women.

As noted, with regard to involuntary separations (*layoffs*) (column 3), we see that there was no difference between women and men in the probability of having been laid off. The more educated were somewhat surprisingly more likely to have been laid off. These results may well reflect reduced demand for white collar administrators and bureaucrats coupled with an increased demand for skilled blue-collar workers (see Gimpelson, 1996). Older workers were less likely to have been laid off, perhaps due to the persistence of seniority rights during the early years of the transition. We fail to detect significant variations across regions (relative to Moscow and St. Petersburg) in layoff probabilities. Managerial resistance against laying off workers did not seem to vary from region to region.

Concerning *trends* in layoff probabilities, the significantly negative coefficient estimate of the 1993 dummy (row 1, column 3) indicates that between 1992 and 1993 workers actually experienced a decline in the probability of experiencing a layoff. However, we do not find evidence (column 5, Table 7) of change in the differential effect of gender over the two-year period in layoff likelihood (once again, among those not employed at the time of the survey).

We now turn to an analysis of voluntary separations (*quits*). Women were significantly less likely to have quit their prior job than men shown by the significantly negative coefficient of

³¹Other reasons that were given for people having left their prior jobs, but that were not coded as either a quit or layoff included having left due to health reasons, due to having reached retirement age, changed to another job, or left for other reasons.

the female dummy (row 2, column 2, Table 3); again, this gender differential increased between 1992 and 1993 shown by the significantly negative interaction effect (column 4, Table 7).³² This gender difference in voluntary mobility may have resulted from the relatively lower representation of women among the skilled blue-collar occupations coupled with the fact, noted by Gimpelson, that the bulk of quits (among the four firms that he studied) were undertaken by skilled blue-collar workers. Consistent with Gimpelson's finding, we see that the more educated were less likely to quit. As expected, older people were also less likely to voluntarily leave their jobs. This result is consistent with lower returns, *ceteris paribus*, to mobility as the payoff period shortens and the mobility-inhibiting effect of firm-specific skills acquired on the prior job inhibits turnover (assuming that age and tenure are positively correlated, so that age proxies tenure effects).

Finally, unlike layoffs we see that there are a number of significant regional differences in quit rates, perhaps reflecting regional differences in labor market opportunities: all regions except Eastern Siberia and the Far East (Region 8) exhibit lower quit rates than in buoyant Moscow and St. Petersburg (some of the effects are statistically not significant).

Patterns of Job Tenure

In the second phase of the survey, respondents who were currently employed were asked a series of questions concerning the initial date of their current job, from which we were able to create a measure of job tenure. Since tenure is measured in months, the parameters reported in the last column of Table 4 indicate the relationship between each attribute and the total number of months with the current employer. For example, the parameter estimate associated with the dummy variable *female* means that on average, females had approximately 18.5 years longer tenure than males (once again, after taking into account the other factors in the regression, i.e. age, education level, region of residence, and so forth).

We see from these results reported in the last column of Table 4 that the longer job tenure of women relative to men found in Table 1a persists when we control for education, age, region,

³²The gender effects on quit likelihood are stronger when we include the item "left for health reasons" in the definition of quits responses (these results are available on request).

and occupation. This gender pattern is not surprising in view of the results on voluntary separations reported in Table 3. Men were more mobile and were likely to engage in job search when they faced wage arrears or falling wages, whereas women had a greater tendency to stay in their jobs, especially when they were second income earners in the family. We also see, as one would expect, that older people had a longer tenure on average, and people with more education had a shorter tenure³³. We also observe significant variations in average tenure levels across regions and occupations, and higher tenure in government-owned firms.

Finally, analyzing tenure over time, we notice that the tenure decline between 1994 and 1996, observed in Table 1a, is statistically significant when we control for personal attributes, region and occupation in our multivariate specification (row 2, column 4, Table 4). We also see from the interactions of gender and the year dummies in Table 7 (column 6) that the gender differential in tenure between these years had not changed.

We now turn to workers' labor market experiences in terms of forced unpaid leave and its duration by focusing on the estimates in columns 2 and 3 of Table 4.

Patterns of Unpaid Leave and Its Duration

Unpaid leave, on top of flexible wages and work hours, provide Russian firm managers an additional instrument for managing their personnel. The practice shares some features of temporary layoffs in the U.S. economy (see Feldstein, 1976): work can be shared within a given labor force, allowing employers to avoid unpopular layoffs and maintain a labor reserve for meeting unanticipated increases in demand.³⁴ According to Goskomstat's Labour Force Survey

³³ Because age is held constant, higher education implies later entry into the market. However, on-the-job training opportunities generally tend to be positively correlated with education levels and increased ties between workers and firms (to the extent that the training has firm-specific elements). Therefore, we might expect to find a positive association between education and average tenure level. The significantly negative education effect, in the Russian context, perhaps resulted from the more educated workers taking advantage of increased opportunities by changing jobs in search of higher earnings.

³⁴ Gimpelson's observation in one of the four firms that he studied is relevant here: "Since 1993 some of its core workers (mostly women working on the assembly lines) have been on unpaid vacations on a rotating basis. Thus, for the individual employee the firm has sought to minimize the

(LFS)³⁵, administrative leave peaked at 2.3 percent of the labor force during the second quarter of 1994, falling continuously to 1.3 percent in the third quarter of 1995, and then rising to 1.4 percent in the fourth quarter of 1995 and to 1.6 percent in the first quarter of 1996.

We first discuss patterns of compulsory unpaid leave before turning to the duration of such leave. A positive (negative) parameter reported in Table 2 (column 2) means that the associated attribute tends, on average, to increase (decrease) the likelihood that an individual was forced to take unpaid leave. For example, the positive coefficient associated with the dummy variable *female* indicates that, *ceteris paribus*, females were more likely than men to have been forced to take unpaid leave.

We see in Table 4 (column 2) that the likelihood of being forced to take unpaid leave diminished between 1994 and both 1995 and 1996,³⁶ the decline being stronger between 1994 and 1995 with an increase in the prevalence of unpaid leave practices between 1995 and 1996.

Women were more likely than men to have been forced to take an unpaid leave at some time in the past (column 2).³⁷ This pattern is consistent with women bearing a greater burden of

duration of unpaid leave; at the same time it maintained the overall numbers on unpaid leave.” While these work-sharing practices have some of the characteristics of temporary layoffs, the absence of unemployment benefits for workers on administrative leave means that these practices play a very different role from that played by temporary layoffs in the U.S. Russian workers are likely to favor contracts that have flexible wages rather than unemployment risks (see Azariadis, 1983).

³⁵Data on underemployment is collected for medium and large sized firms only, covering roughly 75 percent of the labor force. (The number of workers affected by administrative leave is calculated by taking the average duration of administrative leave each month and dividing it by the number of working days.) It may well be the case that smaller firms are less able to engage in work sharing of this form, and may also have lower incentives to do so if they are relatively newer firms with fewer redundant workers. Therefore, the official statistics might overstate the prevalence of administrative leave.

³⁶Data on unpaid leaves was not collected for 1992, the first year of the survey so the base year used for this analysis is 1994.

³⁷A positive (negative) coefficient indicates a greater (lesser) likelihood of having been forced to take unpaid leave at some time on the current job.

the short-run employment adjustments brought on by the transition.³⁸

Concerning the relationship between age and the likelihood of being forced to take unpaid leave, the positive linear “age” effect indicates that older workers were, on average, more likely to have been forced to take unpaid leave, yet the significantly negative quadratic term suggests that the addition in the likelihood of forced unpaid leave diminished with age up to approximately 44 years, after which the likelihood of being forced to take unpaid leave diminished with age. This pattern is consistent with increased reliance on more productive, younger workers in response to the pressures to maintain sales revenue. Again, employees of government-owned enterprises were less likely to face administrative leave, a result reflecting weaker restructuring efforts by these firms.

We observe significant differences across regions and occupations in forced unpaid leave experiences, with several occupations using the practice more than the market-oriented reference category, a pattern that is to be expected if these occupations have redundant workers and are parceling out work according to nonmarket practices.

A caveat is in order before we analyze the estimates of Table 4 with respect to the duration of unpaid leave. The RLMS data present difficulties for empirical analysis of compulsory leave duration because the sample includes respondents who, having experienced an unpaid leave spell, were observed as having a job at the time of the survey. We do not observe leave duration for people who failed to find new employment by the time of the survey, either because they dropped out of the labor market or because they could not find a new job. Therefore, the estimates of leave durations are generally biased downward. The sample size is also small. To the extent that women were less likely than men to find reemployment, or are more likely to drop out of the market, we would expect the data to underestimate the length of leave duration for women relative to men perhaps contributing to the insignificant gender differences. Since *dayslv* is measured in days, a positive (negative) parameter values indicates that the associated attribute acted, on average, to increase (decrease) the number of days that a

³⁸The cyclical sensitivity of female employment is greater than that of male employment in some European economies, the United States and Japan (see Tachibanaki, 1987), results consistent with the gender patterns of unpaid leave seen in Russia.

respondent was forced to remain on unpaid leave, conditional on having been forced to take unpaid leave (i.e., this regression only uses observations for people who were forced to take unpaid administrative leave). For example, the negative coefficient on the dummy variable *female* indicates that on average, females who were forced to take unpaid leave had leave duration that was approximately six days shorter than leave duration for men who were forced to take unpaid leave (once again, after controlling for education level, age, and so forth).

Keeping this qualification in mind, we notice that the estimates of unpaid leave durations (conditional on having been forced to take a leave without pay) in Table 4 (column 3) by gender, age, education level, occupation and region indicate that women tended to have shorter leave durations than men; there was no distinct pattern by education level; older workers generally had longer leave durations; and government workers, while being more likely to experience a forced unpaid leave, tended to have a shorter leave duration. We also notice that few of the regional and occupation dummies are significant; however, the joint significance tests reported at the bottom of Table 4 show that, taken together, each group exerts a significant effect on leave durations.

Despite these problems, we observe a significant *trend* in the average leave duration, that is, a significant increase in average leave duration between 1994 and 1996. In the last column of Table 7, we see a significant increase in the female/male differential in average leave duration between 1994 and 1995 (suggested by the positive interaction term between the female dummy and the 1995 survey year dummy) and a slightly smaller increase between 1994 and 1996.

Patterns in Hours of Work and Short-time Work Schedules

We discussed above the use of administrative leaves by firms as a way of achieving labor flexibility without resorting to politically and economically costly layoffs. Labor inputs can also be varied without layoffs is through reductions in hours or work; combined with administrative leaves, this practice constitutes “hidden unemployment” in the official statistics reported by Goskomstat (see Russian Economic Trends, various issues). We analyze patterns of average monthly hours of work and the prevalence of short-time schedules in Table 5.

Turning first to average hours, we noticed earlier in Table 1b that monthly hours fell for

men and women between 1992 and 1994 having moved up slightly in 1995 and 1996, but did not return to the 1992 levels. This general pattern persists in the multivariate context as suggested by the coefficients of the year dummies in Table 5, i.e. the parameter associated with the dummy variable for 1994, *dum1994*, indicates that, after controlling for the other factors taken into account by the regression, average monthly hours of work were approximately thirteen hours smaller in 1994 than in 1992. The lower (in absolute values) parameter values for later years, i.e. -6.771 in 1995 and -4.146 in 1996, indicate that the fall in average monthly hours of work *relative to 1992* was less over time (a decline of approximately seven hours between 1992 and 1995 and a decline of approximately four hours between 1992 and 1996). Women consistently worked fewer hours than men; we see from the interaction terms in the bottom panel of Table 7 (column 2) that this gender differential significantly increased between 1992 and 1995. It appears that women were bearing a greater burden than men of reduced work hours in response to lower demand for labor services as the transition progressed.

Regarding other patterns in work hours, we notice that education had little effect on hours of work. Hours tended to increase with age up to about 41 years old declining thereafter. Employees in government-owned firms appeared to consistently work fewer hours than other workers. We observe significant variations across regions in hours of work with generally lower hours of work in Moscow and St. Petersburg relative to the other regional groups. Significant differences obtain across occupational groups with most occupations reporting lower hours of work than for the Service/Market Worker reference group (the exception being senior managers).

Turning next to short-time schedules, data from the Federal Employment Service (FES) indicate that short-time work in Russia peaked at 3.5 percent of the labor force in the first quarter of 1994 falling subsequently to 2.5 percent by the third quarter of 1995 -- a pattern evidently produced by workers increasingly quitting their jobs and moving into the growing private sector. Later however short-time work became more prevalent, increasing to 3 percent during the first quarter of 1996 and continuing to rise throughout 1996 (see Russian Economic Trends, various issues), possibly reflecting continued belt-tightening by firms.

Our results reported in the last column of Table 5 do not fully support these conclusions. A positive (negative) parameter reported in the last column of Table 5 indicates that the

corresponding attribute lead to increased (decreased) likelihood that an individual would work less than forty hours per month. For example, the positive coefficient of the dummy variable *female* indicates that on average, women were more likely than men, *ceteris paribus*, to work short-time schedules (i.e. less than forty hours per month). The prevalence of short-time work increased between 1992 and both 1994 and 1995, with a fall between 1994 and 1995 and no change between 1992 and 1996. The absence of clear synchronization in the two patterns may be due to different definitions of short-time work.³⁹ Analyzing the features of this practice across demographic groups and regions, we notice that women were more likely to be on short-time schedules than men, a result once again consistent with women bearing the burden of the adjustment cost of the transition or meeting greater demands on their time due to household chores. Consistent patterns in short-time schedules by education level are absent. The likelihood of a short-time schedule tended to decline with age up to about 42 years, then increased with age. Workers in government- owned firms were more likely to be placed on short-time schedules. Finally, while few of the regional dummies are significant, the a joint test for the set of regional dummies taken as a whole is significant, indicating a significant variation in short-time work across regions. Finally, the Service/Market Worker group was equally or less likely than the other occupation groups to be on short-time schedules, perhaps suggesting adequate demand for their services.

The Pattern of Current Nonemployment Spell and Unemployment Incidence

How does the nonemployment spell vary by gender, demographic factors, occupation and location for people who were unemployed at the time of the survey? These results in Table 6 suggest that women who were not employed at the time of the survey had been without employment for a longer period than unemployed men. Since the dependent variable in column 2, *udur*, measures the number of months that the individual had been without a job, a positive (negative) parameter indicates that the associated attribute acted to increase (decrease) the number of months that a currently not employed individual had been without work. For

³⁹Direct comparisons with official statistics are not possible because short-time work used in official statistics is not defined in *RET*.

example, the coefficient of the dummy variable *female* indicates that on average, women who were not employed at the time of the survey had been without work for approximately eleven months longer than men who were without work at the time of the survey. We also see that nonemployment durations tended to decline with higher levels of educational attainment. Durations also decreased with age up to about 24 years, and then tended to rise. Finally, we see distinct regional variations in nonemployment spells, with respondents in most regions experiencing shorter spells than those experienced by people in Moscow and St. Petersburg.

Is there a rising *trend* in nonemployment duration from 1992 to 1996? The estimates of the year dummies suggest that there was a general increase in nonemployment duration between 1992 and 1996, although the increase was statistically significant only between 1992 and 1995.⁴⁰ Finally, we notice in Table 7 (column 4, bottom panel) a significant change over time in the gender *differential* in nonemployment durations: there was a significant decline in the differential between 1992 and 1996. In other word, while women tended to have longer nonemployment spells than men, this difference narrowed in 1996.

Table 6 reports unemployment occurrence in terms of alternative definitions of unemployment. In column 3, we use a definition analogous to that employed in the United States by the Bureau of Labor Statistics (BLS): the respondent is unemployed if he or she is without a job and is actively searching for work (*unem_b*). Column 4 uses the same definition but requires that the person is registered as unemployed with a government agency (*unem_g*). The last column uses a self-reported definition of unemployment status (*unem_s*). In each case a positive (negative) parameter indicates that the associated attribute increased (decreased) the likelihood that an individual would be unemployed at the time of the survey. For example, the positive coefficients of the dummy variable *female* in columns 3 and 4 indicate that on average, women were more likely than men to be unemployed at the time of the survey according to the *unem_b* and *unem_g* definitions of unemployment; similarly, the negative coefficient of the dummy variable *female* in the last column indicates that women were, on average, less likely than men to

⁴⁰Our measure of the nonemployment spell between jobs is consistent with data from the Ministry of Labor reporting that the average duration of the registered unemployed increased from 5.5 months in 1994 to 6.3 months in 1995.

self-report that they were unemployed at the time of the survey (the variable *unem_s*).

Turning first to columns 3 and 4, we see that women consistently had a higher incidence of unemployment than men, and that this gender differential is stronger for the more restrictive definition of unemployment that requires registration with a government agency. As might be expected, we see that older people tended to have a lower incidence of unemployment (though only in column 3), reflecting greater job seniority or labor force withdrawals. The pattern by education is not pronounced but we see evidence of lower unemployment likelihood for the most highly educated workers in column 3. Turning to regional patterns, a number of regions had a lower prevalence of unemployment than in Moscow and St. Petersburg; when we add the requirement of registration with the government, the pattern reverses. This result points to regional differences in the ease with which the unemployed can register with government agencies and/or regional differences in the amount of unemployment benefits that workers receive with concomitant regional differences in incentives to register with the government when unemployed.

We see in the last column that women were less likely than men to report that they were currently unemployed. The reasons for these differences between the results in the last column and those in columns 3 and 4 are not immediately obvious; perhaps they are due to the structure of the questionnaire that allows respondents to self-classify into activities other than unemployed, such as engaged in various forms of household production. Focusing on changes in unemployment incidence over the three years in Table , the BLS definition (column 3) has no trend. There was however an increase in the prevalence of unemployment among respondents who were registered as unemployed with a government agency (possible due to increases in the value of unemployment benefits) (column 4) and among people who self-reported that they were unemployed.

In Table 7, we do not observe a significant change in gender differences in unemployment incidence for either the *unem_b* or *unem_g* measures. However, the higher rate of self-reported unemployment occurrence for women relative to men of Table 6 (*unem_s*) seems to have increased in 1996 indicating a worsening position for women relative to men with regard to this measure of unemployment.

IV. Summary

Our preliminary results suggest diminished job security from 1992 to 96 with women bearing the greater burden of the adjustment costs of the transition than men. Our principal findings are the following:

Men and women had increased fear of job loss and increased pessimism about their reemployment prospects on losing their jobs. While these concerns were stronger for women than for men in all years, men's concerns grew at a faster rate leading to a partial convergence in concerns about labor market security for men and women.

The likelihood of being forced to take unpaid leave generally increased over the transition as did the duration of these involuntary leaves; women were more likely than men to be forced to take unpaid leave but there was no increase in this pattern over the transition. There was an increase in the gender differential in leave durations over the course of the transition.

Women experienced longer periods of nonemployment and higher incidence of unemployment

Women tended to work fewer hours than men and were more likely to be on short-time schedules than men.

No gender differences in layoff likelihood are seen during the early years of the transition but women were found to be much less likely to quit than men and this gender differential in quit likelihood increased between 1992 and 1993.

Women tended to have longer job tenure than men reflecting less female employment mobility. Both groups experienced a decline in average tenure levels between 1994 and 1996 suggesting increased job turnover for working men and women.

We also found demographic, occupational and regional differences in a number of our labor market security measures. In particular, the more educated faced less job security and job insecurity tended to increase with age.

**Table 1a: Perceived Job Security and Actual Turnover Patterns,
Univariate Comparisons**

<u>Variables</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
(a) <u>Females</u>					
<i>chanj</i>	2.929 ^a (0.93)	2.906 ^a (0.94)	3.003 ^a (1.08)	3.011 ^a (1.04)	3.077 ^{a,b,d} (1.02)
<i>findjb</i>	3.721 ^a (1.39)	3.608 ^a (1.31)	3.822 ^a (1.34)	3.757 ^a (1.33)	3.838 ^{a,b} (1.30)
<i>quit</i>	0.082 (0.28)	0.075 (0.26)	-	-	-
<i>layoff</i>	0.225 ^a (0.42)	0.218 ^a (0.41)	-	-	-
<i>tenure</i>	-	-	101.412 ^a (99.75)	96.124 ^a (100.37)	92.364 ^{a,d} (100.16)
(b) <u>Males</u>					
<i>chanj</i>	2.684 (0.95)	2.736 (0.95)	2.750 (1.09)	2.860 (1.05)	2.891 ^{b,d} (1.03)
<i>findjb</i>	3.020 (1.46)	3.016 (1.38)	3.164 (1.46)	3.209 (1.48)	3.337 ^{b,d} (1.41)
<i>quit</i>	0.070 (0.26)	0.073 (0.26)	-	-	-
<i>layoff</i>	0.381 (0.49)	0.428 ^c (0.50)	-	-	-
<i>tenure</i>	-	-	86.696 (98.35)	80.714 (99.91)	76.564 ^d (95.24)

NOTES: Means are reported with standard deviations in parentheses. Superscripts a,b,c, and d denote significant differences (at 10 percent or better) between, a. males and females (marked on the female means in the top panel), b. 1992 and 1996, c. 1992 and 1993, and d. 1994 and 1996.

See Appendix Table 1 for detailed variable definitions.

**Table 1b: Administrative Leaves and Underemployment Patterns,
Univariate Comparisons**

<u>Variables</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
(a) <u>Females</u>					
<i>comply</i>	-	0.036 ^a (0.19)	0.113 ^a (0.32)	0.073 ^a (0.26)	0.082 ^{a,c} (0.27)
<i>dayslv</i>	-	15.00 (10.87)	37.738 ^a (43.52)	59.836 ^a (104.73)	53.161 ^c (58.41)
<i>hours</i>	157.881 ^a (43.15)	148.92 ^a (47.21)	145.273 ^a (52.82)	151.77 ^a (51.08)	153.835 ^{a,c,d} (48.17)
<i>shours</i>	0.023 ^a (0.15)	0.035 ^a (0.18)	0.044 ^a (0.21)	0.032 ^a (0.18)	0.017 ^{a,b,c,d} (0.13)
(b) <u>Males</u>					
<i>comply</i>	-	0.022 (0.15)	0.100 (0.30)	0.052 (0.22)	0.071 ^c (0.257)
<i>dayslv</i>	-	15.827 (10.89)	51.032 (64.35)	40.376 (44.61)	53.718 ^c (87.59)
<i>hours</i>	176.02 (47.05)	167.034 (49.98)	165.644 (55.93)	174.086 (55.83)	175.953 ^d (52.64)
<i>shours</i>	0.013 (0.11)	0.020 (0.14)	0.030 (0.17)	0.021 (0.14)	0.013 ^{c,d} (0.11)

NOTES: Means are reported with standard deviations in parentheses. Superscripts a, b, and c denote significant differences (at 10 percent or better) between, a. males and females (marked on the female means in the top panel), b. 1992 and 1996, c. 1993 and 1996, and d. 1994 and 1996.

See Appendix Table 1 for detailed variable definitions.

**Table 1c: Unemployment Patterns,
Univariate Comparisons**

<u>Variables</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
(a) <u>Females</u>					
<i>udur</i>	16.722 ^a (15.53)	18.509 ^a (15.60)	18.190 ^a (15.31)	19.577 ^a (15.82)	19.120 ^{a,b} (16.25)
<i>unem_b</i>	0.046 ^a (0.21)	0.036 (0.19)	0.044 ^a (0.20)	0.044 ^a (0.21)	0.051 ^{a,b,c} (0.22)
<i>unem_g</i>	0.017 ^a (0.13)	0.016 ^a (0.13)	0.019 ^a (0.14)	0.024 ^a (0.15)	0.025 ^{a,b,c} (0.16)
<i>unem_s</i>	0.046 (0.21)	0.042 ^a (0.20)	0.055 ^a (0.23)	0.057 ^a (0.23)	0.065 ^{a,b,c} (0.25)
(b) <u>Males</u>					
<i>udur</i>	12.941 (14.80)	12.589 (13.94)	13.896 (13.28)	15.663 (14.74)	15.899 ^{b,c} (15.09)
<i>unem_b</i>	0.040 (0.20)	0.039 (0.19)	0.038 (0.19)	0.037 (0.19)	0.044 ^{a,c} (0.20)
<i>unem_g</i>	0.010 (0.10)	0.012 (0.11)	0.013 (0.11)	0.012 (0.11)	0.020 ^{a,b,c} (0.14)
<i>unem_s</i>	0.048 (0.21)	0.056 (0.23)	0.065 (0.25)	0.067 (0.25)	0.084 ^{a,b,c} (0.28)

NOTES: Means are reported with standard deviations in parentheses. Superscripts a and b denote significant differences (at 10 percent or better) between, a. males and females (marked on the female means in the top panel), b. 1992 and 1996, and c. 1994 and 1996.

Nonemployment duration means are calculated for nonemployment spells of 5 years of less, and for respondents no older than 55 years.

See Appendix Table 1 for detailed variable definitions.

**Table 2: Fear of Job Loss (*chanj*)
Lack of Confidence of Finding at Least as Good a Job (*findjb*)**

	<i>chanj</i>	<i>findjb</i>
dum1994	0.097 ^a (0.019)	0.106 ^a (0.019)
dum1995	0.149 ^a (0.019)	0.098 ^a (0.019)
dum1996	0.201 ^a (0.019)	0.166 ^a (0.020)
female	0.278 ^a (0.017)	0.531 ^a (0.017)
profco	-0.079 ^a (0.017)	-0.061 ^a (0.017)
ptufzu	0.020 (0.026)	-0.016 (0.026)
ptusec	-0.017 (0.021)	-0.081 ^a (0.020)
tecmed	-0.072 ^a (0.017)	-0.096 ^a (0.017)
ins_g	-0.199 ^a (0.022)	-0.273 ^a (0.022)
age	0.062 ^a (0.004)	0.011 ^a (0.004)
age ²	-0.0007 ^a (0.0001)	0.0007 (0.0005)
gov	0.076 ^a (0.016)	0.083 ^a (0.016)
region 2	0.120 ^a (0.031)	0.254 ^a (0.032)
region 3	0.195 ^a (0.027)	0.358 ^a (0.027)
region4	0.326 ^a (0.028)	0.426 ^a (0.028)
region 5	0.218 ^a (0.028)	0.348 ^a (0.028)

(continued)

Table 2: Fear of Job Loss (*chanj*)
Lack of Confidence of Finding at Least as Good a Job (*findjb*)

	<i>chanj</i>	<i>findjb</i>
Region 6	0.221 ^a (0.028)	0.322 ^a (0.027)
Region 7	0.223 ^a (0.031)	0.364 ^a (0.031)
Region 8	0.265 ^a (0.030)	0.299 ^a (0.030)
Occupation 1	-0.321 ^a (0.052)	-0.116 ^b (0.052)
Occupation 2	-0.173 ^a (0.033)	0.042 (0.033)
Occupation 3	-0.111 ^a (0.032)	0.037 (0.032)
Occupation 4	-0.061 ^c (0.038)	0.221 ^a (0.038)
Occupation 6	-0.037 (0.031)	0.090 ^a (0.031)
Occupation 7	0.020 (0.032)	0.217 ^a (0.031)
Occupation 8	-0.024 (0.033)	0.165 ^a (0.032)
Military	-0.187 ^a (0.076)	0.101 (0.076)
Pseudo R ²	0.0191	0.0357
jt. test1	101.36 ^a	161.94 ^a
jt. test2	164.07 ^a	280.81 ^a
jt. test3	83.70 ^a	123.62 ^a
Sample size	23,933	25,666

NOTES: Parameter estimates are reported with standard errors in parentheses. The regressions are estimated with maximum likelihood ordered probit. Rows jt. test1, 2, and 3 report chi-square statistics for joint significance tests of education, region and occupation. Superscripts a,b, and c denote significance levels of 1 percent, 5 percent, and 10 percent, respectively. (All specifications additionally include a constant.)

Table 3: Voluntary (*Quit*) and Involuntary (*Layoff*) Turnover

	<i>Quit</i>	<i>Layoff</i>
dum1993	-0.020 (0.050)	-0.131 ^c (0.075)
female	-0.552 ^a (0.045)	0.045 (0.067)
profco	0.084 ^d (0.059)	0.073 (0.093)
ptufzu	-0.040 (0.082)	-0.014 (0.113)
ptusec	0.034 (0.073)	0.082 (0.100)
tecmed	-0.185 ^a (0.061)	0.183 ^b (0.078)
ins_g	-0.322 ^a (0.071)	0.303 ^a (0.092)
age	0.139 ^a (0.011)	0.154 ^a (0.016)
age ²	-0.0018 ^a (0.0001)	-0.0020 ^a (0.0002)
region 2	-0.087 (0.100)	0.065 (0.140)
region 3	-0.273 ^a (0.094)	0.002 (0.135)
region4	-0.170 ^c (0.100)	-0.023 (0.144)
region 5	-0.044 (0.088)	0.226 ^c (0.120)

(continued)

Table 3: Voluntary (*Quit*) and Involuntary (*Layoff*) Turnover

	<i>Quit</i>	<i>Layoff</i>
region 6	-0.291 ^a (0.089)	-0.114 (0.129)
region 7	-0.328 ^a (0.097)	0.002 (0.136)
region 8	0.015 (0.100)	-0.064 (0.143)
Pseudo R ²	0.0957	0.1177
jt. test 1	39.44 ^a	16.59 ^a
jt. test 2	35.67 ^a	15.37 ^b
Sample size	4,443	4,438

NOTES: Parameter estimates are reported with standard errors in parentheses (probabilities for female are reported in brackets). Both regressions are estimated by maximum likelihood probits. Rows jt. test1 and 2 report chi-square statistics for a joint significance test of education and region. Superscripts a,b,c, and d denote significance levels of 1 percent, 5 percent, 10 percent, and 15 percent respectively. (All specifications additionally include a constant.)

Table 4: Compulsory Leave (*comply*, *dayslv*) Job Tenure (*tenure*)

	<i>comply</i>	<i>dayslv</i>	<i>tenure</i>
dum1995	-0.278 ^a (0.034)	4.606 (4.526)	0.305 (1.573)
dum1996	-0.192 ^a (0.033)	8.123 ^b (4.254)	-4.846 ^a (1.597)
female	0.320 ^a (0.034)	-6.101 ^a (4.259)	18.459 ^a (1.585)
profco	0.002 (0.034)	-10.763 ^a (4.342)	-7.066 ^a (1.621)
ptufzu	0.042 (0.047)	-9.478 ^c (5.876)	-7.322 ^a (2.372)
ptusec	-0.037 (0.039)	-7.090 (5.048)	-5.158 ^a (1.871)
tecmed	-0.019 (0.036)	-11.618 ^a (4.691)	-7.518 ^a (1.669)
ins_g	-0.253 (0.050)	-4.252 (6.825)	-25.271 ^a (2.184)
age	0.071 ^a (0.009)	-2.494 ^b (1.281)	3.388 ^a (0.402)
age ²	-0.0008 ^a (0.0001)	0.025 ^d (0.016)	0.016 ^a (0.005)
gov	0.216 ^a (0.030)	-10.763 ^a (4.342)	12.700 ^a (1.474)
region 2	-0.329 ^a (0.075)	-3.797 (10.517)	-5.018 ^c (3.114)
region 3	-0.019 (0.056)	26.143 ^a (7.253)	-2.393 (2.593)
region 4	-0.037 (0.057)	2.478 (7.381)	7.188 ^a (2.630)
region 5	0.098 ^c (0.059)	22.276 ^a (7.541)	3.055 (2.788)

(continued)

Table 4: Compulsory Leave (*comply*, *dayslv*) Job Tenure (*tenure*)

	<i>comply</i>	<i>dayslv</i>	<i>tenure</i>
region 6	0.077 (0.056)	-3.243 (7.236)	10.144 ^a (2.692)
region 7	-0.149 ^b (0.065)	13.976 ^c (8.627)	-3.563 (2.934)
region 8	-0.082 (0.064)	8.932 (8.200)	-0.549 (2.966)
occupation 1	-0.177 (0.150)	17.876 (23.589)	-7.521 ^d (5.291)
occupation 2	0.277 ^a (0.074)	12.415 (10.649)	35.365 ^a (3.109)
occupation 3	0.188 ^c (0.070)	26.493 ^a (10.087)	11.300 ^a (2.925)
occupation 4	0.106 (0.080)	6.281 (11.382)	-2.750 (3.518)
occupation 6	0.546 ^a (0.067)	6.340 (9.543)	15.187 ^a (2.909)
occupation 7	0.481 ^a (0.067)	12.973 (9.564)	25.856 ^a (2.918)
occupation 8	0.063 (0.072)	19.109 ^c (10.378)	-26.680 ^a (3.015)
military	-0.180 (0.250)	-5.942 (40.283)	26.233 ^a (7.174)
(Pseudo) R ²	0.0542	0.0048	0.2846
jt. test1	28.97 ^a	2.37 ^b	29.45 ^a
jt. test2	56.58 ^a	5.74 ^a	8.81 ^a
jt. test3	160.49 ^a	1.73 ^c	87.53 ^a
Sample size	18,608	1,443	17,133

NOTES: Parameter estimates are reported with standard errors in parentheses. The *comply* regression is estimated by maximum likelihood probit, the *dayslv* regression is estimated by maximum likelihood tobit, and the *tenure* regression is estimated by ordinary least squares. Rows jt. test1, 2, 3 report chi-square statistics for a joint significance test of education, region, and occupation. Superscripts a,b,c, and d denote significance levels of 1, 5, 10, and 15 percent respectively. (All specifications additionally include a constant.)

Table 5: Monthly hours of work (*hours*), short-hours schedule (*shours*)

	<i>hours</i>	<i>shours</i>
dum1994	-13.326 ^a (1.042)	0.310 ^a (0.050)
dum1995	-6.771 ^a (1.042)	0.165 ^a (0.054)
dum1996	-4.146 ^a (1.080)	-0.075 (0.060)
female	-23.836 ^a (0.916)	0.175 ^a (0.045)
profco	1.938 ^b (0.964)	0.060 (0.047)
ptufzu	-0.522 (1.431)	0.021 (0.071)
ptusec	2.644 ^b (1.140)	-0.109 ^c (0.060)
tecmed	-1.250 (0.939)	-0.013 (0.047)
ins_g	-0.202 (1.245)	-0.069 (0.063)
age	2.299 ^a (0.232)	-0.066 ^a (0.011)
age ²	-0.028 ^a (0.003)	0.0008 ^a (0.0001)
gov	-8.266 ^a (0.894)	-0.089 ^b (0.043)
region 2	4.528 ^a (1.722)	-0.272 ^a (0.093)
region 3	7.059 ^a (1.487)	-0.178 ^a (0.073)
region4	4.450 ^a (1.511)	-0.112 ^d (0.072)
region 5	8.938 ^a (1.542)	0.067 (0.070)

(continued)

Table 5: Monthly hours of work (*hours*), short-hours schedule (*shours*)

	<i>hours</i>	<i>shours</i>
Region 6	0.799 (1.493)	-0.138 ^b (0.073)
Region 7	7.846 ^a (1.698)	-0.025 (0.079)
Region 8	8.831 ^a (1.659)	0.034 (0.076)
Occupation 1	11.078 ^a (2.862)	0.031 (0.156)
Occupation 2	-21.466 ^a (1.845)	0.252 ^a (0.091)
Occupation 3	-11.516 ^a (1.759)	0.175 ^b (0.086)
Occupation 4	-12.041 ^a (2.062)	-0.056 (0.108)
Occupation 6	-22.881 ^a (1.730)	0.066 (0.089)
Occupation 7	-9.162 ^a (1.737)	0.059 (0.089)
Occupation 8	-11.747 ^a (1.787)	0.198 ^b (0.086)
Military	38.947 ^a (4.188)	-
(Pseudo) R ²	0.0847	0.0387
jt. test3	2.76 ^b	6.85
jt. test1	10.67 ^a	29.05 ^a
jt. test2	74.97 ^a	19.45 ^a
Sample size	22,814	22,599

NOTES: Parameter estimates are reported with standard errors in parentheses. The *hours* regression is estimated by ordinary least squares, the *shours* regression is estimated by maximum likelihood probit. Rows jt. test1, 2, and 3 report chi-square statistics for joint significance tests of education, region and occupation. Superscripts a,b, and c denote significance levels of 1, 5, and 10 percent, respectively. (All specifications additionally include a constant.)

**Table 6: Duration in Months Since Last Employed (*udur*)
Likelihood of Being Unemployed (*unem_b*, *unem_g*, *unem_s*)**

	<i>udur</i>	<i>unem_b</i>	<i>unem_g</i>	<i>unem_s</i>
dum1994	-0.543 (1.271)	-0.052 ^c (0.032)	0.044 (0.046)	0.061 ^b (0.030)
dum1995	2.116 ^c (1.301)	-0.055 ^c (0.032)	0.096 ^b (0.046)	0.072 ^b (0.030)
dum1996	1.386 (1.309)	0.023 (0.032)	0.189 ^a (0.044)	0.166 ^a (0.030)
female	10.960 ^a (0.959)	0.087 ^a (0.023)	0.205 ^a (0.033)	-0.044 ^b (0.021)
profco	-4.883 ^a (1.157)	0.020 (0.030)	0.045 (0.041)	0.030 (0.026)
ptufzu	-5.370 ^a (1.822)	0.099 ^b (0.043)	0.037 (0.061)	0.052 (0.038)
ptusec	-3.575 ^a (1.472)	0.039 (0.034)	0.105 ^a (0.044)	0.007 (0.029)
tecmed	-7.842 ^a (1.160)	-0.015 (0.028)	0.019 (0.039)	-0.135 ^a (0.027)
ins_g	-5.981 ^a (1.471)	-0.080 ^b (0.033)	-0.029 (0.045)	-0.311 ^a (0.033)
age	-1.473 ^a (0.230)	-0.033 ^a (0.005)	0.007 (0.008)	0.026 ^a (0.005)
age ²	0.031 ^a (0.003)	0.0003 ^a (0.0001)	-0.0002 ^b (0.0001)	-0.0006 ^a (0.0001)
region 2	-4.683 ^b (2.268)	-0.002 (0.053)	0.250 ^a (0.075)	-0.046 (0.052)
region 3	-2.986 ^d (1.918)	-0.061 (0.046)	0.114 ^c (0.068)	0.045 (0.044)

(continued)

**Table 6: Duration in Months Since Last Employed (*udur*)
Likelihood of Being Unemployed (*unem_b*, *unem_g*, *unem_s*)**

	<i>udur</i>	<i>unem_b</i>	<i>unem_g</i>	<i>unem_s</i>
region 4	-3.428 ^c (1.976)	-0.148 ^a (0.048)	0.113 ^c (0.069)	-0.018 (0.045)
region 5	1.867 (1.946)	-0.041 (0.046)	0.004 (0.072)	0.140 ^a (0.044)
region 6	-2.436 (1.970)	-0.049 (0.046)	0.129 ^c (0.068)	-0.040 (0.045)
region 7	-5.423 ^a (2.108)	-0.099 ^c (0.052)	0.132 ^c ^a (0.074)	-0.001 (0.049)
region 8	-6.662 ^a (2.155)	-0.083 ^c (0.051)	0.069 (0.076)	0.022 (0.048)
(Psuedo) R ²	0.0203	0.0202	0.0205	0.0440
Jt. Test 1	14.09 ^a	16.53 ^a	8.14 ^d	126.91 ^a
Jt. Test 2	4.68 ^a	15.11 ^b	18.87 ^a	35.26 ^a
Sample size	9,014	39,260	39,260	39,260

NOTES: Parameter estimates are reported with standard errors in parentheses. The *udur* (duration in months since last employed) regression is estimated by maximum likelihood tobit. The remaining regressions, *unem_b* (=1 if unemployment using a criteria comparable to that employed by the Bureau of Labor Statistics in the U.S.), *unem_g* (=1 if unemployed and registered with the government), *unem_s* (=1 if self-reported unemployment status), are all estimated by maximum likelihood probit. Rows jt. test1 and 2 report chi-square statistics for joint significance tests of education and region. Superscripts a,b, and c denote significance levels of 1, 5, and 10 percent, respectively. (All specifications additionally include a constant.)

Table Z: Trends in Gender Differences in Job Security, Turnover, Forced Leaves, Hours of Work, Duration of Nonemployment, and Likelihood of Unemployment

	<i>chanj</i>	<i>findjb</i>	<i>quit</i>	<i>layoff</i>	<i>tenure</i>	<i>compltv</i>	<i>daystv</i>
dum1993 x female	-	-	-0.158 ^a (0.089)	-0.074 (0.133)	-	-	-
dum1994 x female	0.051 (0.037)	-0.043 (0.037)	-	-	-	-	-
dum1995 x female	-0.069 ^c (0.037)	-0.154 ^a (0.038)	-	-	-0.228 (3.120)	0.092 (0.067)	36.558 ^a (9.043)
dum1996 x female	-0.017 (0.038)	-0.172 ^a (0.038)	-	-	0.063 (3.186)	-0.036 (0.066)	12.888 ^d (8.473)

	<i>hours</i>	<i>shours</i>	<i>udur</i>	<i>unem_b</i>	<i>unem_g</i>	<i>unem_s</i>
dum1994 x female	-1.333 (2.037)	-0.057 (0.100)	-1.155 (2.659)	-0.003 (0.064)	-0.033 (0.094)	-0.059 (0.060)
dum1995 x female	-3.537 ^c (2.080)	-0.068 (0.107)	0.641 (2.718)	0.010 (0.064)	0.056 (0.094)	-0.074 (0.060)
dum1996 x female	-2.097 (2.120)	-0.100 (0.121)	-4.123 ^d (2.705)	0.003 (0.063)	-0.121 (0.090)	-0.122 ^b (0.059)

Notes: The interaction effects reported above are from regressions reported in Tables 2-6, but with the addition of these interaction terms. Parameter estimates are reported with standard errors in parentheses. Superscripts a, b, and c denote significance levels of 1 percent, 5 percent, and 10 percent, respectively.

Appendix Table 1: Job Security Variable Definitions

<u>Variable</u>	<u>Definitions / and Survey Questions</u>
chanjb	"How concerned are you that you might lose your job?" The four possible responses range from a value of 1 for the response "not at all concerned" to a value of 4 for the response "very concerned".
findjb	"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 position?" The five possible responses range from a value of 1 for the response "quite confident" to a value of 5 for the response "not at all confident".
layoff	Layoff=1 if the answer to the question "Why did you leave your job?" was due to a shutdown or reorganization of the enterprise, or due to staff reductions.
quit	Quit=1 if respondents answered that they left because they "did not want to stay on that job or left for personal reasons"; zero otherwise.
tenure	"Tell me, please, since what year and month have you been working at this place?" Using the interview date and month, we calculate the number of months employed at the current job.
complv	"Has the administration at any time sent you on compulsory unpaid leave?", which is coded as 1 if the answer is yes, 0 if the answer is no.
dayslv	"How many calendar days, without a break, did this leave last or has it lasted?", which is coded as missing for people who were never forced to take unpaid leave.
hours	"How many hours did you actually work at your primary place of employment in the last 30 days?" Responses are deleted if people say that they worked more than 300 hours per month.
shours	=1 if average monthly hours of work are less than or equal to 40.
udur	"How many months ago did you leave your last place of work?", which is coded as missing for people who are currently employed and those who never held a job. The analysis is restricted to nonemployment spells of 5 years or less, and for respondents no older than 55 years.
unem_b	=1 if the respondent is without a job and indicates that he/she wants to find a job, and has applied for a job (searched for work) in the month prior to the survey (BLS definition).
unem_g	=1 if unem_b=1 and applied for work with a state agency (gov. definition).
unem_s	=1 if respondent indicates that his/her primary occupation at the time of the survey is "temporarily not employed (for reasons other than caring for a child or other family members) and looking for a job"

Appendix Table 2: Explanatory Variable Definitions

<u>Variables</u>	<u>Definitions</u>
dum199i	=1 for year 199i (i=3,4,5,6)
female	=1 for female
school	=1 if no training besides secondary school (reference category)
profco	=1 for professional courses (e.g. chauffeuring, typing, accounting)
ptufzu	=1 for technical school training courses without a secondary education
ptusec	=1 for technical school training courses with a secondary education
tecmed	=1 for technical, medical, music, pedagogical, art school
ins_g	=1 for institute, university, academy, graduate school, residency
age	age in years (restricted to between 16 and 65 years old)
gov	=1 if government is the sole or partial owner of the employing firm
occupation 1	=1 for a Legislator, Senior Manager, Official
occupation 2	=1 for a Professional
occupation 3	=1 for a Technician, Associate Professional
occupation 4	=1 for a Clerk
occupation 5	=1 for a Service Worker, Market Worker (reference group)
occupation 6	=1 for a Craft or Related Trades
occupation 7	=1 for a Plant or Machine Operator or Assembler
occupation 8	=1 for in an Elementary (Unskilled) Occupation
military	=1 for in the Army
region 1	=1 for Moscow and St. Petersburg (reference group)
region 2	=1 for Northern and North Western
region 3	=1 for Central and Central Black Earth
region 4	=1 for Volga-Vyatski and Volga Basin
region 5	=1 for North Caucasus
region 6	=1 for the Urals
region 7	=1 for Western Siberia
region 8	=1 for Eastern Siberia and Far Eastern

Appendix Table 3 : Explanatory Variable Summary Statistics

<u>Variables</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
female	0.551 (0.50)	0.547 (0.50)	0.511 (0.50)	0.510 (0.50)	0.513 (0.50)
school	0.226 (0.42)	0.010 (0.10)	0.258 (0.44)	0.195 (0.40)	0.170 (0.38)
profco	0.169 (0.37)	0.155 (0.36)	0.244 (0.43)	0.193 (0.39)	0.207 (0.40)
ptufzu	0.056 (0.23)	0.234 (0.42)	0.091 (0.29)	0.079 (0.27)	0.082 (0.28)
ptusec	0.093 (0.29)	0.584 (0.49)	0.164 (0.37)	0.155 (0.36)	0.166 (0.37)
tecmed	0.311 (0.46)	0.350 (0.48)	0.242 (0.43)	0.225 (0.42)	0.233 (0.42)
ins_g	0.213 (0.41)	0.186 (0.39)	0.179 (0.38)	0.166 (0.37)	0.167 (0.37)
age	40.233 (13.33)	39.999(13.32)	37.847(13.07)	37.850 (12.97)	37.744(12.91)
gov	0.832 (0.37)	0.702 (0.46)	0.725 (0.45)	0.719 (0.45)	0.718 (0.45)
occupation 1	0.030 (0.17)	-	0.018 (0.13)	0.038 (0.19)	0.012 (0.19)
occupation 2	0.185 (0.39)	-	0.189 (0.39)	0.137 (0.34)	0.172 (0.35)
occupation 3	0.130 (0.34)	-	0.140 (0.35)	0.149 (0.36)	0.150 (0.36)
occupation 4	0.067 (0.25)	-	0.058 (0.23)	0.062 (0.24)	0.060 (0.25)
occupation 5	0.053 (0.22)	-	0.076 (0.27)	0.087 (0.28)	0.079 (0.27)
occupation 6	0.003 (0.06)	-	0.007 (0.08)	0.005 (0.07)	0.008 (0.09)
occupation 7	0.193 (0.39)	-	0.202 (0.40)	0.183 (0.39)	0.178 (0.38)
occupation 8	0.190 (0.39)	-	0.192 (0.39)	0.198 (0.40)	0.194 (0.40)
occupation 9	0.136 (0.34)	-	0.111 (0.31)	0.120 (0.33)	0.131 (0.34)
military	0.009 (0.09)	-	0.007 (0.09)	0.014 (0.12)	0.015 (0.12)
region 1	0.109 (0.31)	0.099 (0.30)	0.105 (0.31)	0.089 (0.29)	0.079 (0.27)
region 2	0.096 (0.30)	0.101 (0.30)	0.073 (0.26)	0.075 (0.26)	0.071 (0.26)
region 3	0.129 (0.34)	0.128 (0.33)	0.179 (0.38)	0.176 (0.38)	0.185 (0.39)
region 4	0.099 (0.30)	0.098 (0.30)	0.169 (0.37)	0.171 (0.38)	0.173 (0.38)
region 5	0.169 (0.37)	0.181 (0.39)	0.135 (0.34)	0.139 (0.35)	0.141 (0.35)
region 6	0.185 (0.39)	0.179 (0.38)	0.146 (0.35)	0.152 (0.36)	0.150 (0.36)
region 7	0.112 (0.32)	0.113 (0.32)	0.099 (0.30)	0.098 (0.30)	0.097 (0.30)
region 8	0.100 (0.30)	0.100 (0.30)	0.095 (0.29)	0.100 (0.30)	0.103 (0.30)

NOTE : Means (proportions) are reported with standard deviations in parentheses.

Bibliography

- Azariadis, Costas (1983). "Employment with Asymmetric Information." *Quarterly Journal of Economics*, 98 (Supplement): 157-72.
- Barber, John (1986). "The Development of Soviet Employment and Labour Policy, 1930-41." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 50-68.
- Bergson, Abram (1946). The Structure of Soviet Wages. Cambridge, Mass: Harvard University Press.
- Boycko, M. A. Shleifer, and R. Vishny. (1995) *Privatizing Russia*. The MIT Press.
- Brainerd, Elizabeth. (1996a) "Winners and Losers in Russia's Economic Transition." Working Paper, Harvard University.
- _____. (1996b) "Death and the Market." Working Paper, Harvard University.
- _____. (1997) "Women in Transition: Changes in Gender Wage Differentials in Eastern Europe and the Former Soviet Union." Working Paper, Harvard University, August.
- Chapman, Janet G. (1991). "Recent and Prospective Trends in Soviet Wage Determination." In *In Search of Flexibility*, edited by Guy Standing. Geneva: International Labour Office. pp.177-202.
- Cox, Donald, Zereria Eser, and Emanuel Gamines. (1995) "Family Safety Nets During Economic Transition: A Study of Inter-Household Transfers in Russia." Washington D.C.: The World Bank.
- Desai, Padma. (1989). "Perestroika, Prices, and the Ruble Problem." *The Harriman Institute FORUM*, 2 (11), November: 1-8.
- Feldstein, Martin. (1976). "Temporary Layoffs in the Theory of Unemployment." *Journal of Political Economy*, 84, October: 937-58.
- Gimpelson, Vladimir, and Douglas Lippoldt. "Labour Restructuring in Russian Enterprises: A Case Study." OECD, Paris 1966.
- Glinskaya, Elena, and Thomas Mroz. (1996) "The Gender Gap in Wages in Russia From 1992 to 1995." Paper presented at the 10th ESPE Anniversary Meeting, Uppsala.

- Gloeckner, Eduard (1986). "Underemployment and Potential Unemployment of the Technical Intelligentsia: Distortions Between Education and Occupation." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 223-238.
- Gregory, P., and J. Kohlhase. (1988) "The Earnings of Soviet Workers: Evidence from the Soviet Interview Project." *The Review of Economics and Statistics*. 70:1. pp. 23-35.
- Hanson, Philip (1986). "The Serendipitous Soviet Achievement of Full Employment: Labour Shortage and Labour Hoarding in the Soviet Economy." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 83-111.
- Harrison, Mark (1986). "The Development of Soviet Employment and Labour Policy, 1930-41." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 69-82.
- Helgeson, Ann (1986). "Geographical Mobility - Its Implications for Employment." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 145-175.
- Kate, Katarina. (1994). *Gender Differentiation and Discrimination: A Study of Soviet Wages*.
- Kostakov, Vladimir G. (1991). "Labour Surplus and Labour Shortage in the USSR." In *In Search of Flexibility*, edited by Guy Standing. Geneva: International Labour Office. pp. 81-106.
- Lane, David (1986). "The Ending of Mass Unemployment in the USSR." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 1-18.
- Lapidus, Gail W. (1981). "The Female Industrial Labor Force: Dilemmas, Reassessments, and Options." In *The Soviet Economy: Continuity and Change*, edited by Morris Bornstein. Boulder: Westview Press. pp. 119-148.
- Layard, Richard, and Andrea Richter. (1994). "Labor Market Adjustment in Russia." *Russian Economic Trends*. vol. 3, no.2, Russian European Center for Economic Policy, pp. 85-103.
- Malle, Silvana (1986). "Heterogeneity of the Soviet Labour Market as a Limit to a More Efficient Utilisation of Manpower." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 122-144.
- Marnie, Sheila (1986). "Transition from School to Work: Satisfying Pupils' Aspirations and the Needs of the Economy." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 209-222.

- Marshall, Ray, and Arvil Adams. (1994) "Labor Market Flexibility and Job Security Measures in a Global Economy," ESP Discussion Paper Series, 44, World Bank.
- Maslova, Inga (1991). "State employment programmes in the light of the new Law on Employment." In *In Search of Flexibility*, edited by Guy Standing. Geneva: International Labour Office. pp. 121-144.
- Mikhalev, Vladimir. (1996) "Poverty Alleviation in the Course of Transition: Policy Options for Russia." Working Paper, Robert Schuman Centre.
- Mroz, Thomas, and Barry Popkin. (1995) "Poverty and the Economic Transition in the Russian Federation." *Economic Development and Cultural Change*, 44:1. pp. 1-31.
- Newell, Andrew and Reilly, Barry. (1996) "The Gender Wage Gap in Russia: Some Empirical Evidence." *Labour Economics*, vol. 3, no. 3. pp. 337-56.
- Pietsch, Anna-Jutta (1986). "Shortage of Labour and Motivation Problems of Soviet Workers." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 176-190.
- Popkin, B., M. Kosolopov, P. Kozyreva, T. Mroz, M. Swafford, and N. Zohoori. (1996). "Monitoring the Economic Transition in the Russian Federation: The Russian Longitudinal Monitoring Survey." in Economic Transformation--Households and Health (Washington DC: National Academy Press).
- Powell, David E. (1981). "Labor Turnover in the Soviet Union." In *The Soviet Economy: Continuity and Change*, edited by Morris Bornstein. Boulder: Westview Press. pp. 101-118.
- Romanenkova, Gortenziya (1991). "Rural-Urban Labour Migration in the USSR: Its Role in Redistributing Population and Labour Resources." In *In Search of Flexibility*, edited by Guy Standing. Geneva: International Labour Office. pp. 165-176.
- Rutkowski, Jan. (1996). "High Skills Pay Off: The Changing Wage Structure During Economic Transition In Poland." Economics of Transition, 4(1). pp. 89-112.
- Rutland, Peter (1986). "Productivity Campaigns in Soviet Industry." In *Labour and Employment in the USSR*, edited by David Lane. New York: New York University Press. pp. 191-208.
- Standing, Guy. (1991). Editor, In Search of Flexibility: The New Soviet Labour Market. International Labour Organization, Geneva.
- _____. (1994a) "Employment Restructuring in Russian Industry." *World Development*, vol. 22, no. 2: 253-60.

- _____. (1994b) "Labor Market Implications of "Privatization" in Russian Industry in 1992." *World Development*, vol. 22, no. 2: 261-70.
- _____. (1994c) "The Changing Position of Women in Russian Industry: Prospects of Marginalization." *World Development*, vol. 22, no. 2: 271-83.
- _____. (1995). "Enterprise Restructuring in Russian Industry and Mass Unemployment." Labour Market Papers No. 1, International Labour Office.
- _____. (1996). "The 'shake-out' in Russian factories: The RLMS fifth round, 1995." Labour Market Papers No. 14, International Labour Office.
- Tachibanaki, Toshiaki. (1987). "Labour Market Flexibility in Japan in Comparison With Europe and the U.S." *European Economic Review*, 31. pp. 647-84.
- Yanowitch, Murray. (1963). "The Soviet Income Revolution." *Slavic Review*, 22, pp. 683-97.

1997-1998 Discussion Paper Series

Department of Economics
Columbia University
1022 International Affairs Bldg.
420 West 118th Street
New York, N.Y., 10027

The following papers are published in the 1997-98 Columbia University Discussion Paper series which runs from early November to October 31 of the following year (Academic Year).

The following is a website address where viewers may download some discussion papers. It is a project that is in progress, and therefore the site may not contain all recent working papers.

<http://www.columbia.edu/dlc/wp/econ/index.html>.

For Ordering Hardcopies:

Domestic orders for discussion papers are available for purchase at the cost of \$8.00 (U.S.) Per paper and \$140.00 (US) for the series.

Foreign orders cost \$10.00 (US) per paper and \$185.00 for the series.

To order discussion papers, please write to the Discussion Paper Coordinator at the above address along with a check for the appropriate amount, made payable to Department of Economics, Columbia University. Please be sure to include the series number of the requested paper when you place an order.

1997-98 Discussion Papers
Economics Department, Columbia University

Series no.	Title	Author
9798-01	Optimal Regulatory Transparency	Herk, L.F.
9798-02	Russia's Market Transition: Who Has Lost and How?	Desai, P. Idson, T.
9798-03	The Wage Arrears Crisis in Russia	Desai, P. Idson, T.