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INTRAGENERATIONAL JOB MOBILITY IN A PERIOD OF RAPIDLY RISING INEQUALITY: THE CASE OF MID-CAREER MEN IN THE CZECH REPUBLIC IN THE 1990S

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1. ABSTRACT

Former socialist countries experienced dramatic changes in the organization and structure of their economies and labor markets in the 1990s. While the impact of those changes on the distribution of income and earnings has been thoroughly studied already, less is known about their consequences for patterns of occupational and labor market mobility. In this text we examine how the incorporation of the Czech Republic into the global economy and changes in employment and labor market policies impacted the frequency and patterns of job-to-job, job-to-unemployment, and unemployment-to-job mobility of Czech mid-career men between 1989 and 1998. Using single and competing risks survival models we show the growing dispersion of labor market risks – most notably the risk of unemployment- across social strata after 1995, when the period of relative social stability ended. Contrary to expectations, however, those changes were quite modest and we assume that other economic actors- e.g. younger and older male employees and women of all ages - might have been exposed to higher levels of risk resulting from the restructuring of the economy.

2. INTRODUCTION

There is general agreement that global integration is one of the key factors reshaping contemporary societies. Technological advances and innovations, rapid development in means of transportation, the liberalization of foreign trade, and growing flows of capital, labor and information have helped to create a world with an unprecedented level of interdependency and mobility (Bauman, 2000; Reich, 1992). This development has shaped many areas of human lives, especially the nature of work and employment relationships. Modern societies are moving towards a 'learning society', the nature of which forces individuals and other economic actors to adopt more flexible behavioral patterns and to be more receptive of innovations (Blossfeld *et al.*, forthcoming). International competition compels firms to adapt to changing demands and opportunities, and it is commonly assumed that jobs have been becoming less secure and stable, and that atypical work contracts are on the rise.

However, as some authors point out, globalization is not a coherent process but varies from country to country. Country specific logic, mechanisms and institutions mold the macro processes, and nation states continue to significantly modify and filter the consequences of globalization (Blossfeld *et al.*, forthcoming; Layte *et al.*, forthcoming). Modern social institutions are mutually complementary and interconnected, resulting in some rigidity, and globalization is constrained in each country by different institutional barriers (Blossfeld *et al.*, forthcoming).

This chapter investigates the impact of globalization and economic liberalization on job stability in the Czech Republic. We are mainly concerned with developments between 1989 and 1999. The reasons for this are both technical as well as substantive. The available data provides detailed information only on the period after 1989; substantive reasons relate to the previous isolation of the centrally-planned economies and the uniqueness of their job

markets. Thus, in the case of the Czech Republic, liberalization with respect to international economic relations coincided with the transformation from a centrally planned to a market economy. The impact of globalization was thus shaped by transforming and newly emerging institutions and governmental policies, coupled with strong intervention.

The communist and socialist economies tended to be extremely autarkic, stemming from their emphasis on the economic independence of the socialist bloc as a whole. The scope of foreign trade with Western countries was rather limited, and foreign trade had little or no influence on incentives for individual firms. Governments purchased the export goods from firms at domestic prices, exported it and set exchange rates.

The socialist job market was distorted by several political factors. First of all, the communist regime pursued a politics of full and compulsory employment that controlled workers. It protected those who were the most vulnerable and would suffer from rather unstable careers in the 'standard' market economy. The proportion of employees who were shielded from job instability was not small, as shown in a survey of so-called 'hidden unemployment' commissioned by the Central Committee of the Communist Party of Czechoslovakia in 1983. At that time, it was officially estimated that in a standard economic situation, approximately 30 percent of the people were unemployed (Možný, 1994: 464).[1]

With rewards on the job market based on political considerations and not on economic rationality or social consensus, Czechoslovakia was known for its extraordinary wage equality. The Marxist regime preferred heavy industry and blue-collar jobs and suppressed the importance and financial reward of intellectual and innovative work. Further, it tried to minimize job mobility (so-called ´fluctuation´). Income distribution was determined by the

[1] These estimates were based on three factors: 1) how many people absented workplaces during the official working hours; 2) how many people were physically at the workplace but did not work, and; 3) how many people were at work, but were involved in an activity that could be cancelled without any loss of economic efficiency. If a method based on labour efficiency was used, the estimates of 'hidden unemployment' reached nearly a staggering 60 percent (ibid, 465).

'needs principle', according to which the 'army of workers' had to be fed and given a chance to build their families. Following this principle, the size of a household was the key determinant, while little attention was paid to the performance of workers (Večerník, 1999). The political and economic reality of the socialist regime knowingly contradicted the natural tendencies of modern technological societies. Jobs and workplaces in the industrial sector that would have been the most insecure in a market economic situation were protected, and people were given jobs for life. .

To investigate the impact of the integration of world economies and globalization on job stability in the Czech Republic, it is essential to start with the period when the strong political control of the economy and labor market broke down. We start with a general description of the economic developments and transformations in the 1990s (Section 9.2). Special attention is then given to foreign trade and foreign direct investments as we consider them to be important measures of the degree to which the Czech Republic entered the global economy. In Section 9.3 we present macro-data on job market development and summarize previous research concerning this area. In Section 9.4 we briefly review the most important hypotheses relevant to the job market and report expectations regarding possible changes in job stability. Section 9.5 discusses the data and methods, with 9.6 elaborations upon the results of our analyses.

2. ECONOMIC BACKGROUNDS AND INSTITUTIONAL DEVELOPMENT IN THE 1990s

Since the beginning of the 1990s, centrally planned economies in Central Europe have been experiencing radical economic and political transformations, and after forty years of extreme autarky and isolation, these countries have joined the global economy. Czechoslovakia (later

the Czech Republic and Slovakia) joined the global economy through the liberalization of foreign trade, participation in the international financial system, and internal restructuring. Liberalization with respect to foreign trade and capital has been crucial as the economy of the Czech Republic is comparatively small and lacks natural resources. If the country was to achieve the efficiencies and living standards of Western Europe, it needed to be integrated into a larger regional or global trading system (for more, see Bosworth and Ofer, 1995).

The economic reforms were particularly rapid with respect to foreign economic relations, while internal restructuring proceeded at a slower pace. The economic reform was launched by the liberalization of domestic prices in January 1991. In the same month most foreign trade controls were lifted, and in March 1991, Škoda Auto, one of the biggest companies in the country, was sold to the Volkswagen Group. In 1995, the National Bank introduced full convertibility of currency, entered the World Trade Organization, and obtained OECD membership. As a result, real exports and imports of goods and services have been growing rapidly since 1991 (Table 9.1).

[TABLE 9.1 ABOUT HERE]

According to Kogut and Gittelman (1999; see also Debrah and Smith, 2002), foreign direct investment (FDI) has recently become the most important factor in the integration into the global economy and has replaced trade as the main engine of integration. FDI was also one of the key mechanisms for the restructuring of the Czech economy (see Table 9.2). While the liberalization of foreign trade occurred quickly, the inflow of FDI into the Czech Republic in the first half of the 1990s was relatively low in comparison to other Central European countries. However, since 1998, the country has been experiencing a significant increase to the extent that in 1998 the FDI inflow to the country represented 4.5 percent of GDP (EBRD

Transition Report)[2]. The biggest investor is Germany, accounting for approximately 25 percent of total FDI inflow.

[TABLE 9.2 ABOUT HERE]

In the first phase, from roughly 1990 to 1992, economic transformations led to a sharp decline in the real GDP. Key factors closely connected with this rapid downturn were the liberalization of the economy, the exposure to international competition, and the collapse of the Council of Mutual Economic Assistance (CMEA). In the previous era, exchange rates within CMEA favored the Central European countries. This was attributed to the low prices the USSR charged for energy and natural resources, while the prices for consumer goods and machinery from Central Europe were inflated. Czechoslovakia (along with other Central European countries) was not forced to compete with Western production, and a significant proportion of its output was not marketable on international markets (Bosworth and Ofer, 1995: 122-123). Price liberalization thus meant sharp increases in the prices of raw material and lower prices for low-quality goods. Industrial output that was economically justified under one set of relative prices became uneconomic under another, and the country experienced a radical decline in the GDP.

An important characteristic of the socialist and the transforming post-socialist economy was the existence of an informal sector (see also Parrado, this volume). Although the informal sector exists everywhere, it occupied a privileged and incomparable position in the socialist economies. Rose and Haerpfer (1992) introduced the term 'portfolio of economies' to express the importance and intensity in which people in the former socialistic countries combined legal and illegal, and monetary and non-monetary means to their benefit.

[2] Compared to 3.6 percent in Hungary, 4.5 in Poland and 10.4 in Estonia.

Recent studies aimed at measuring the size of the hidden economy in Central and Eastern European countries (CEEC), based on patterns of electricity consumption, point to about 30 percent of the GDP being produced in the informal sector even at the outset of transition (Boeri, 2000: 67). Even though Czechoslovakia was among those countries with a relatively small informal sector in comparison with other CEEC countries, the informal economy was still fairly significant, and it is estimated that it produced about 25 percent of GDP (Boeri, 2000: 193).

The share of the informal sector was likely high even during the first years of the transition despite the fact that much of the previously informal activity had been legalized. Beňáček (1994) points out that the behavior of purchasing fewer consumer durables (cars, etc.) does not indicate the economic slump and decline in real wages as purported by the official statistics. Even though we are not able to exactly measure the impact of the informal sector, it should be kept in mind that in many cases a person's official status (e.g., unemployed) does not automatically indicate the real socioeconomic position of that person.

3 GENERAL CHARACTERISTICS OF THE JOB MARKET IN THE 1990s

The main features of the Czech job market in the 1990s were shaped by the interplay of the basic forces of the transforming global and liberalizing economy, international competition, and governmental policies, in tandem with significant pressure from labor unions and other pressure groups.

The job market quickly opened up at the beginning of the 1990s and was characterized by a steep decline in employment rates for both men and women and high job mobility. In the first two years of the economic transformations, employment declined by 10 percent, and by the end of the decade it stood at only 87 percent of the pre-transformation employment level.

For men there were two major channels for departure from employment: retirement and unemployment.

The system allows combination of full pension benefits and full-time jobs without reduction. These working pensioners were the first to be pushed out of the labor market in the beginning of the 1990s. In 1989, employed pensioners represented one-tenth of the workforce, and their number nearly halved in the very first year of the economic transformation (Frýdmanová *et al*., 1999: 21). Early retirement also became an important way to exit labor market and between 1988 and 1993 the number of retired men of pre-retirement age (below 60 years of age in that period) increased from 7.3 percent to 17.7 percent (Matějů, 1999: 160). Even though the Czech Republic had the lowest incidence of early retirement among all Central European countries, it was still quite substantial.

Unemployment was officially registered since the beginning of the 1990s (see Table 9.3). The very beginning of the economic transformation in 1991 brought a temporary increase in unemployment (4.1 percent). However, by the end of 1991 the maximum duration of eligibility for unemployment support was halved (the former period of 12 months was changed to a maximum of six months) and minimum eligibility conditions for receiving benefits related to employment record were introduced.[3] As a result of this reduction in generous and extended unemployment benefits, unemployment dropped to 2.6 percent.

[3] Benefits were set at 60 percent of the previous net wage (or minimum wage for graduating students) for the first three months of unemployment, and 50 percent during the second three months. The maximum was equal to 150% of the minimum wage. Although there was no minimum unemployment benefit during the period 1992-4, a family could receive social assistance (welfare) if the sum of the unemployment benefits and income of other household members was less than the household minimum living standard. Once benefits expired, the unemployed were eligible for social assistance. Similar cuts in employment benefits were introduced also in Poland and Hungary, but without any remarkable success. Boeri (2000: 90) attributes the success in Czechoslovakia to the fact that it was introduced before a large pool of the unemployed had accumulated. Moreover, cuts in benefit levels and duration were accompanied in Czech Republic by the implementation of a large scale of active labour market programs such as subsidies, training courses etc.

The Czech transformation strategy in the first half of the 1990s with respect to the job market was based on a low-wage, low-unemployment trade-off designed to maintain relatively full employment in the economy. The exchange rate policy and wage controls were used to keep Czech wages low in dollar terms and lower than in other Central European economies. However, labor productivity and GDP per capita in the Czech Republic were higher in terms of purchasing-power-parity.[4] Low wages in comparison to international levels served to keep more workers employed, thus reducing one of the primary social costs of transition - unemployment (Orenstein and Hale, 2001: 271). In 1995, wage regulations were lifted. Unemployment has been increasing since 1996, and since 1999 has oscillated around nine percent.

[TABLE 9.3 ABOUT HERE]

The job market was characterized not only by a decline in employment, but also by high job-to-job mobility. Between 1989 and 1995, three-quarters of men changed their jobs and about half of the men experienced two or more changes. Upward mobility was prevalent, and approximately 60 percent of job changes were made with the prospect of finding a better job (Večerník, 1996: 13). The most common shift was towards the group of self-employed. The workforce in external markets (seasonal and unskilled workers) to a large degree consisted of laborers from Eastern Europe, especially the Ukraine.

Competition required restructuring the economy, with a basic shift from heavy industry to the service sector. Under the socialist system, administrative control led to the suppression of a large range of business services that are normally required to facilitate the

[4] Low wages were primarily maintained through wage control – a system of punitive taxes on 'excess' increases in an enterprises' average wage bill above annual percentage limits negotiated between the government, employers and labor unions.

operation of markets (accounting, financial services, lawyers, etc.). The liberalization of the economy brought a rapid increase in the number of people employed in these sectors. There was also a growth in the private service sector and state administration. Thus, between 1989 and 1999 the labor force in the service sector grew by 15 percent (from 41 to 54 percent), with the percentage of the labor force in industrial production declining by 8 percent. The labor force in the primary sector (agriculture, hunting, fishing) was relatively low even at the outset of the transformation and represented only 10 percent of the labor force. In the course of the 1990s, the number of workers in this sector dropped to less than 5 percent.

The beginning of the transformation was marked by a decline in real wages, mostly affecting middle-income groups. The situation of the lowest income group seems to be unchanged thanks to the introduction of a minimum wage. However, transformation opened opportunities for growth in the highest income groups. The situation of the middle-income groups remained relatively stable, with only a slight decline. There was a direct relationship between income and emerging firms in the private sector. The self-employed had the highest incomes, employees in the new private businesses were in second place, followed by those in former state companies that had been privatized and finally, employees of state-owned companies (Večerník, 1996: 33). Age and sex has been its losing influence as a determinant of income. According to Večerník (1996), the variance attributed to these two demographic factors declined from 36 percent in 1988, to 19 percent in 1992 and in 1996 these factors accounted for only 14 percent of the variance (*ibid*, 34).

There is no general agreement regarding the influence of the labor unions during the transformation. While some researchers (e.g., Boeri, 2000) claim that the strength of labor unions was exaggerated and that the labor unions were rather weak, others (e.g., Orenstein and Hale, 2001) view them as a major player on the scene. Garrett (1998) even uses the Czech Republic as an example of the possibility that social democratic corporatism could be an

alternative to the neoclassical perspective even in the era of global markets (see Orenstein and Hale, 2001).

The labor union movement in the Czech Republic was not fragmented and most of the unions were grouped within a single national federation (Czech and Slovak Chamber of Labor Unions, and later the Czech-Moravian Confederation of Trade Unions). Moreover, it retained most of the extensive property of the former communist Revolutionary Labor Union Movement (ROH), and these property holdings provided them with vital resources. Their relative power was further strengthened by the fact that the employer associations were weaker, less representative and more fragmented, and a national umbrella for employer associations was created only at the request of the government in 1990 (Orenstein and Hale, 2001).

International immigration affected the job market selectively, particularly the construction industry and seasonal (agricultural) job markets. In the first half of the 1990s, foreigners with legal working permits or permanent residency represented approximately 3 percent of the labor force (160,000 legal immigrants). The number of illegal immigrants is estimated as being between 150,000 and 200,000, representing approximately between 2 and 4 percent of the labor force (Drbohlav, 1997). Around one-quarter of illegal immigrants came from the former Soviet Union. The inflow of illegal immigrants decreased in 2000 when visas for the former Soviet Union countries were introduced. Since there is no exact cross-sectional estimate of international emigration, we are unable to determine how many Czechs work abroad. However, according to the Eurobarometer in 2001, five percent of the population have at some time had such an experience (Candidate Countries Eurobarometer, 2001).[5]

[5] The numbers are small and it is nearly impossible to draw any conclusion, but 7 percent of Slovaks, 5 percent of Poles, and 2 percent of Hungarians also claimed to have received such experience. In the case of Slovaks it could be expected that this number is mainly accounted for by work experience in the Czech Republic.

4 HYPOTHESES

4.1 Cohort/Period differences

The increased internationalization of economic activity is expected to lead to growing labor market flexibility, particularly in terms of marginal work, part-time employment, short-term contracts, and flexible working hours. Reich (1992) even predicts the end of traditional employment contracts and expects that temporary ad-hoc teams will be created to find a solution to a specific task. However, support for the 'job instability' hypothesis is not unanimous. Some authors claim that job security has not generally declined, but only that less educated workers have more insecure jobs (Diebold *et al.*, 1996; Swinnerton and Wial, 1996; Diebold *et al.*, 1997; Booth and Marco, 1999).. Schmidt and Svorny (1998) oppose the idea that overall job insecurity is growing. Thus, the hypothesis of growing 'job instability' in the contemporary world still needs an empirical evaluation.

Data availability does not allow us to compare job stability under the communist regime with job stability after the economic liberalization. However, we can compare two time periods: before 1995 and after 1995. While the most fundamental economic reforms were launched in January 1991 (liberalization of prices and foreign trade), 1995 marks further opening up and liberalization, especially with regard to the labor market and international economic relations. Most notably, the government imposed strict wage regulations on firms until these were abolished in 1995. The year 1995 also brought about more international economic competition as the Czech National Bank introduced and guaranteed full convertibility of the Czech currency. This was also the year that the Czech Republic entered the World Trade Organization and obtained OECD membership. While many other measures of the globalization process were growing at a more or less stable rate (see above), we chose

1995 to be the natural cut-off point for many comparisons. We assume that the Czech Republic was exposed to more global competition and relationships after this year then prior to it, which has considerable implications for our investigation.

We expect that after 1995, the exits from employment to unemployment should be higher than in the previous period. Moreover, we anticipate the increased risk to be spread unequally across social classes and economic sectors. As wage regulations helped to maintain over-employment and made it possible for many firms to keep redundant workers in the work force at a relatively low cost, we expect it is these workers that were more frequently pushed out of the labor market after 1995. Wage regulation enabled extensive use of the labor force instead of emphasis on labor efficiency. We foresee that workers with a lower occupational status, namely manual workers and unskilled manual workers, as being the most affected. Therefore, we test for the presence of interactions between historical period and social class in modeling the transition from employment to unemployment. We also hypothesize that the public sector was not impacted as severely by the economic crisis of the second half of the 1990s and therefore did not experience significant downsizing. Therefore, we expect the probability of the transition to unemployment to grow selectively in ownership sectors in the post-1995 period. In statistical terms, we foresee an interaction between historical period and the form of ownership.

We also expect a somewhat higher overall job mobility after 1995, since this is the period that the Czech economy has been more exposed to international competition. If the general hypothesis about a global increase in job insecurity were true, we would expect it to lead to higher job-to-job mobility.

4.2 Class differences

Technological innovations and the advance of 'the new economy' require more flexibility on the part of workers. There are two competing theories about the changing distribution of risk once in the labor market (Layte *et al*., forthcoming). The *segmentation* argument holds that the rising economic risks will be experienced among those on 'labor-type' contracts such as manual workers and particularly unskilled manual workers. The *individualization* thesis holds that growing uncertainty brings the risk of experiencing atypical work and unemployment is increasing for all. This argument claims that social class shrinks and all employees are undergoing proletarization.

If the *individualization* theory holds, differences among the social classes should be relatively small and gradually disappearing. If the *segmentation* argument is valid we should find significant differences among the social classes. *Manual workers* (skilled and non-skilled) are usually considered to be the group with the most threatened and unstable careers. This is attributed to the increasing importance of new technologies and the growing demand for services that shift the relative labor demands toward higher-skilled and service workers. This tendency is strengthened by the spread of modern transportation techniques, enabling manufacturing to be moved to areas with a cheaper labor force (e.g., Reich, 1992). This could have two implications for the job market in the Czech Republic: manual workers may experience a future similar to their counterparts in the most advanced societies. Their jobs may be relatively unstable and they may face a higher risk of unemployment. On the other hand, as a country with a relatively highly-qualified labor force but low labor costs, it may attract production. Thus, manual workers could enjoy a relatively good position compared to more advanced western countries, especially if they work in plants owned by a large foreign or multinational company. This would be in accordance with Večerník (1996: 33) who found

that people in new and privatized businesses had higher incomes than workers in state-owned companies.

The growth of the service sector and state bureaucracy will likely favor *routine non-manual workers.* We would expect them to have jobs with greater stability, especially in the state sector. On the other hand, greater stability may not apply to non-manual workers in the private sector. The nature of non-manual work does not really require long-term contracts and employers may be increasingly less willing to offer them long-term positions (Blossfeld, 2000).

Information and new technologies are the driving force of modern technological societies. The importance of human capital is growing and *the service class* are the supposed 'winners' of technological change. Greater efficiency and productivity and a higher return on human capital should make them less vulnerable to involuntarily job changes; on the other hand, the 'new economy' demands more flexible workers. Reich (1992) thus forecasts the rise of a new kind of worker, the so-called 'symbolical analysts', who do not have stable work contracts, but who create ad hoc teams for specific problems.

McManus (2000) argues against the recent claim that a new form of low-quality, contingent *self-employment* is taking hold in advanced societies and that the self-employed jobs are generally of low quality. According to her analyses of the US and German self-employment sector, self-employment represents the most stable form of work. The Czech Republic experienced a rapid growth of the self-employed sector and we know that people in the self-employed sector on average have the highest income. However, the impact on job stability is not clear. We presume that self-employment is generally connected with the greatest job stability, not only in the service or traditional craft sectors but also among professionals because self-employment allows greater flexibility and adaptability to changes in the market.

5 DATA, VARIABLES, AND METHOD

Data is taken from a large stratification survey carried out in the Czech Republic between September and November 1999. The data file contains complete information about respondents' careers after 1989, and partial information about their previous occupational status. Our analysis therefore covers only the post-1989 developments.

The target population of the survey was the population of the Czech Republic aged 18-69 in 1999. Respondents were selected on the basis of a stratified multi-stage sample, while the selection procedure at each stage was strictly random.[6] A total of 4,744 interviews were completed with a response rate of 65%. Since only men were utilized in the analysis, the sample size is reduced to 2,156 individuals. However, we have complete background information (education, year of birth, age at the beginning of career -needed to estimate labor force experience) for only 2,099 male respondents. The life history calendar of the survey contains complete information about the individuals' labor market history after 1989, including the type of activity, ending and starting years, and, for jobs, also a detailed classification of the occupation and ownership sector. The calendar begins in 1989, so all jobs that people held in this year are assigned the year 1989 as their start. No details about the type of contract (fixed term vs. permanent, part-time vs. full-time) or size of firms were asked. Out-of-labor-market status was also recorded in the calendar.

We analyze four types of labor market transitions: (1) job-to-job mobility (with a binomial response), (2) job-to-job mobility (with a polynomial response distinguishing upward, lateral and downward occupational mobility), (3) job-to-unemployment mobility (binomial response), and (4) unemployment-to-job mobility (binomial response). Only labor

[6] Cities, electoral districts, households, and individuals defined strata.

market episodes after the end of schooling are explored. The analysis includes a total of 2,576 employment and 112 unemployment episodes (with known details). Exits out of the labor market to origins of other than unemployed (retirement, study, military service, etc.) are treated as right censored. Moreover, we focus only on mid-career occupational mobility, so episodes that last beyond the age of 50 are also right-censored.

Several independent variables are employed in the analysis. *Time at risk* is measured in years since the beginning of the job, employing the square and cube of time to capture curvilinear relationships. Time is treated as a set of discrete values in the analysis. Three levels of *education* are distinguished in the analysis: vocational or less (corresponds to lower secondary or less in the International Standard Classification of Education - ISCED), complete secondary education (upper secondary in the ISCED terminology), and tertiary. Education is utilized as a nominal variable and two dichotomous variables are used to contrast upper secondary and tertiary education against lower secondary or lower education (=comparison category).

Social class is a nominal variable based on the EGP classification of occupations (Erikson and Goldthorpe, 1992). The only difference between our classification and EGP is that our variable includes self-employed professionals among the self-employed, while Erikson and Goldthorpe suggest that they be included among professionals. We believe that our classification better corresponds to the theory (see above) and that it also captures the peculiarity of self-employment as it has emerged during the post-socialist transition. We differentiate five basic classes: service class, routine non-manuals, self-employed, supervisors & skilled workers, and unskilled workers & agricultural laborers. The social class of the present job is employed to investigate the job-to-job and job-to-unemployment mobility, and the social class of the last job is then utilized to model the unemployment-to-employment transition.

Ownership sector is a nominal variable with four categories: public sector, state-owned firm[7], private enterprises, and other (including cooperative, mixed and all other types of ownership). Ownership sector refers either to the present occupation of the respondent (job-to-job transition, or job-to-unemployment transition) or to the last job (unemployment-to-employment transition). There are two job-entry *cohorts* utilized in the analysis. We distinguish job episodes that began before 1995 and episodes that started later. A dummy variable is employed to contrast the later with the former (1989-94 cohort = 1, 1995-99 = 0). The cohort only enters the analysis of job-to-job and job-to-unemployment transitions. To test some cohort specific hypotheses we also use the interaction effect between job-entry cohort and other variables of interest.

All nominal variables in the analysis may suffer from a low number of cases in some categories when analyzing rare events, namely the transition from employment to unemployment and vice versa. In this case, we collapse some of the categories to maintain as much reasonable detail as possible, and yet avoiding the problem of empty cells. In such cases the exact coding of individual variables is apparent from the respective tables.

Occupational status is measured using the International Socio-Economic Index of occupational status (ISEI, Ganzeboom *et al*., 1992). The ISEI scale is used to model upward, lateral and downward occupational mobility. An upward (or downward) move is defined as a 10% increase (or 10% decrease) in the socioeconomic status of the occupation. The length of the respondent's total accumulated *labor force experience* is measured in the years since the respondent first entered the labor market. When analyzing job-to-job mobility, labor force experience is employed as a time-varying covariate in the models, while it is a time-constant

[7] Public sector includes civil servants and other employees of the state such as state administration, local governments, teachers, police officers and otehrs, while state-owned enterprises are essentially state-owned businesses run for profit. Many of the state-owned enterprises (banks, telecomunications etc.) were privatized during the 1990s, but some, such as railways are still owned by the state.

explanatory variable in the analysis of unemployment-to-employment transition. Here it measures the respondent's experience acquired prior to the present unemployment episode. *Age* is also measured in years and is a time-varying covariate in all models.

We use *discrete time event history analysis* to estimate the likelihood that a man would terminate his occupation or unemployment in a particular year after its beginning. We explore job-to-job, job-to-unemployment, and unemployment-to-employment transitions using a binomial response variable. We utilize a multinomial response variable to model upward, lateral and downward occupational moves. We then estimated conventional binomial (or multinomial) logistic regression models in the standard form, while using time as one of the explanatory variables.

We first model the effect of time, followed by class, and then incorporate other covariates into the model. In evaluating the models, we employed both classical inference and the Bayesian information coefficient (BIC). However we do not report relevant test statistics nor all statistical models here because of space limitations, however they are available from the authors upon request.

6 RESULTS

6.1 Job-to-job transitions

We first look at job-to-job transitions using a binomial response variable. We then model the log of the odds that an employee would quit his present job, dependent on job duration and other selected covariates. Only the results of three models are reported here. First, we investigate the effect of time on the likelihood of a job change, then we explore the effect of class on the stability of jobs, and lastly, we add other relevant covariates to the model.

[TABLE 9.4 ABOUT HERE]

From Model 1 (Table 9.6) we clearly see that, while the likelihood of leaving a job decreases over time, the effect of time at risk on the log odds of a job change is not linear. Rather, we observe a curve that goes down, but at a rate that is increasingly less steep as the time at risk increases. As a result, the curve flattens as the duration of the job contract increases (see also Figure 9.1). Model 2 informs us that members of different social classes are exposed to qualitatively different risks of a job change. According to the gross class effects, self-employed workers are, as expected, the least likely to begin a new job. Furthermore, unskilled manual workers are somewhat less likely to leave a job and start a new one, whereas service class, routine non-manual workers, and skilled manual workers all face an equally high likelihood of job-to-job transition (see Table 9.6 and Figure 9.1).

[FIGURE 9.1 ABOUT HERE]

Model 3 (Table 9.6) adds all other control variables to the model. While controls do not change the basic contours of the model, they reveal some additional relationships of great interest. First, we observe that employees in state-owned firms tended to be on average more mobile than employees in the public sector. This is likely a consequence of the ongoing privatization and restructuring of the economy as a whole and consequently, at least in the early 1990s, mostly of state-owned enterprises (see above). Second, we ascertain a significant negative net effect of the likelihood of job shifts in the private sector in comparison to the public sector. The log odds of the probability of a job-to-job move are 0.619 lower in the private sector than in the public sector (see Table 9.4). This observation results most probably

from a combination of three factors: a high unemployment rate among school graduates, the virtual impossibility of obtaining a job in a private business without previous labor force experience, and low average salaries combined with a strongly pronounced seniority principle in the reward system within the public sector. As a result of these factors, the public sector attracts recent graduates at the beginning of their careers in particular, but pushes them out after a few years as they see slim chances for promotion, acquire work experience, and can more easily obtain better paying jobs within the private sphere (see Večerník, 1999).

The propensity of job-to-job mobility between the individual classes remained unaffected after 1995 (Table 9.4). Self-employed workers tended to change occupations less than other classes, both prior to and after 1995, but no other net class effect is detected in the data. However, there was a significant increase in the job-to-job mobility in the private sector after 1995 (see Model 4 in Table 9.4).

6.2 Upward, lateral and downward occupational mobility

Table 9.5 reports the results of a multinomial logistic regression model of job-to-job mobility. This model contrasts upward, lateral and downward occupational mobility against no mobility (i.e., it is the comparison category of the dependent variable). As described previously, an upward (or downward) move is defined as a 10% increase (or a 10% decrease) in the socioeconomic status of the occupation (ISEI).

[TABLE 9.5 ABOUT HERE]

In general, the model shows no unexpected results. We discover that the likelihood of any job change is stratified across social classes in a predictable way. In general, the self-

employed are the least mobile, experiencing the lowest risk of downward and laterals move and a relatively low risk of upward moves (see Table 9.5 and also Table 9.4). Unlike the self-employed, service class workers face a comparatively high risk of downward occupational mobility and also, in comparison to all other classes, they seem to frequently move between jobs of the same socioeconomic status. In comparison to other social classes, the service class also witnesses a low risk of upward occupational mobility.

The impact of education on mobility is also predictable. Higher educational credentials imply more chances for upward mobility and also reduce the risk of a downward occupational shift. Furthermore, higher education means a lower propensity of lateral occupational mobility. The relationship between age and the log odds of any type of occupational mobility follows a concave curve (see Table 9.5) that peaks at about the middle of one's career. Coefficients associated with ownership sectors confirm that employees in state-owned enterprises are the most mobile. Moreover, the results suggest that workers in state-owned firms in particular experience a higher propensity of upward and lateral moves than employees in the public sector, while there is no net difference between state-owned and other sectors in the log odds of a downward move. Again, the finding that job-to-job mobility of any type is the least frequent in the private sector (see above) is re-confirmed. Table 9.5 also indicates that the *net* effect of accumulated work experience on the propensity for upward, lateral and downward moves is negative.

6.3 Job-to-unemployment transition

The effect of time on the log odds of the probability of exit from employment is curvilinear (see Table 9.6). Moreover, individual classes are exposed to varying levels of risk (see Model 2 in Table 9.6). Therefore, we observe the same pattern of the relationship between time and

log odds for all classes, but at different levels (Figure 9.2). The likelihood of becoming redundant tends to be relatively low during the first few years of the duration of the job, it then increases, peaking in the fourth year of employment, after which it falls again. We observe a sudden upturn in the curve at the end of the observation period. This implies that the economic crisis, growing unemployment rate, and economic decline in the late 1990s, also, and rather remarkably, hit employees who had not changed their jobs since 1989 (given the short window of observation, only jobs beginning in 1989 could last for 10 years (a risk time) when the upturn is seen – see Figure 9.2). Among the social classes, the service class and the self-employed were the least affected by the risk of unemployment, whereas skilled manual workers and routine non-manual workers faced a somewhat higher likelihood of unemployment, while unskilled workers and agricultural laborers experienced the highest probability of losing their jobs (Table 9.6). Surprisingly, the risk of being unemployed is spread equally across all ownership sectors in the economy (Table 9.6).

[TABLE 9.6 ABOUT HERE]

From Model 3 we can infer that education is a strong barrier to unemployment, . There is a with a strong negative effect of education on the likelihood of losing a job. As Table 9.6 demonstrates, having a completed secondary education, in contrast to primary or lower secondary training, lowers the log odds of the job-to-unemployment transition by 0.558 (significant at the 0.05 level), and tertiary education by 2.01 (significant at the 0.01 level). However, accumulated work experience has a *positive* net impact on the probability of joblessness (Model 4 in Table 9.6). The sociological and economic literature does not, to the best of our knowledge, offer any theoretically grounded explanation of the observed phenomenon. Nonetheless, we dare to hypothesize that it may be the consequence of the rapid

social and economic transformations that devalues certain types of qualifications. Work experience that was accumulated during socialism may not be a particularly rewarding form of human capital during the post-socialist transformation. Rather, once people were socialized into the inefficient socialist mode of production, their re-socialization and adaptation to new work ethics, methods and approaches may in fact be virtually impossible. Therefore, longer work experience may result in a higher likelihood of the employment-to-unemployment transition.

Model 4 then adds all covariates into one model to show their net effects.

[FIGURE 9.2 ABOUT HERE]

When we compare some of the previously described relationships across job-entry cohorts in more detail, we see the consequences of the changing economic conditions for exits from employment in the Czech Republic. Model 5 tests for the presence of interactions between job-entry cohort and class and between job-entry cohort and ownership sector (see Table 9.6). First, the fifth model convincingly demonstrates the growing stratification of the risk of unemployment by social class. While social class considerably determines the likelihood of becoming unemployed in jobs that began after 1995, all social classes witnessed the same risk of unemployment prior to 1995. In particular, intensifying international economic competition and other transformations of the economy worsened the situation of manual workers, only modestly affected skilled workers, and considerably impacted the unskilled ones (Table 9.6). Similarly, there is a remarkable difference in the effect of the ownership sector before and after 1995. For instance, the log odds of job loss increased by 2.561 in the private sector after 1995. The risk of unemployment was very low in comparison with other sectors before 1995.

6.4 Exit from unemployment

Despite the relatively large size of the data file used in this analysis, exits from unemployment are rare events in the life history calendar. In fact, we found only 319 observations at risk of the unemployment-to-employment transition, and could identify only 33 events. Therefore, it is impossible to maintain the same detail in the explanatory variables as in the previous analyses. To avoid the problem of empty cells, we distinguish only two social classes, depicting the distinction between manual and non-manual occupations. This is a traditional tool in stratification research (see for e.g., Grusky and Hauser, 1984; Lipset and Bendix, 1959; Tyree *et al*., 1979) that also grasps the core of our class-related hypotheses. We also modeled the effect of ownership sector and education using only two categories: private versus other sector, and high school or higher versus lower education. Class and ownership sector refer to the last job the respondent held before becoming unemployed.

[TABLE 9.7 ABOUT HERE]

All models of the exit from unemployment are statistically weak predictors of the event. We observe a modest and positive gross effect of time on the likelihood of assuming a new job (Model 1 in Table 9.7). However, this effect disappears when statistical controls are introduced into the model. From Model 3 we observe that only the sector of previous employment has a significantly positive implication for the probability of being re-employed. The log odds of the probability are 1.454 higher for men previously employed in the private sector than for men who entered unemployment from other sectors of the economy (see Model 3 in Table 9.7). Any explanation of the real cause of this effect is unresolved and

impossible to test within the confines of our data. We can, on the one hand, hypothesize that employment in the private sector, with its greater emphasis on production effectiveness and different management and personnel methods, would result in shifts in peoples' work attitudes, labor ethics, time management capabilities, and other cognitive changes that would consequently help them find a new job once they are out of work. On the other hand, an alternative explanation is that employment in the private sector attracts only people with a particular psychological profile (e.g., stronger motivation, ambition, and flexibility, higher achievement orientation – characteristics that tend to be rewarded in the labor market, thus facilitating re-employment).

Other effects in Model 3 are statistically insignificant. However, they correspond with the expected direction. Their statistical insignificance may only be an artifact of the low number of cases and events rather than convincing proof of their unimportance. Human capital, both in the form of formal education and labor force experience, exhibit positive effects on the probability of re-employment. Also, age seems to show a curvilinear relationship of the likelihood of exit from unemployment (Table 9.7) that theory predicts.

7 CONCLUSIONS

The analyses support the *segmentation* theory, which holds that members of different social classes are differentially exposed to risks of job change. The self-employed are least mobile and face the lowest risk of becoming unemployed. The service class, routine non-manual workers, and skilled manual workers all face an equal likelihood of job-to-job transition. Yet the service class experiences a lower probability of unemployment than routine non-manual and skilled manual workers. Unskilled manual workers are exposed to the highest probability of unemployment, but have a lower risk of job-to-job change, which is connected with the

relatively slim chance of finding a new job. Thus, it can be argued that social class is still an important factor that shapes individuals' lives. Skills and education are not only connected with the general risk of a job change, but also influence the direction of the shift. Modern societies are moving towards a 'learning society', which forces individuals, firms, regions, and national economies to behave in a flexible manner and to continuously learn (Blossfeld, 2000). The data shows that higher education implies greater chances for upward mobility and reduces the risk of a downward shift.

The analysis also confirms differences between the less globalized economy and less liberal job market prior to 1995, to that after 1995. It can be argued that the liberalization of the job market and joining the global economy had a profound impact on job stability in the Czech Republic. This period has been characterized by a relatively evenly distributed risk of unemployment across social classes. However, further liberalization and the opening of the economy did not affect all social classes to the same degree, and the risk of unemployment became more stratified. Manual workers who entered the job after 1995 faced a greater risk of losing their jobs compared with other social classes, which was particularly true for unskilled workers, and moderately so for skilled workers.

The ownership sector has been a strong predictor of job stability, which is closely connected with the transformation from a centrally planned to a market economy. Jobs in the private sector were 'better jobs', and people working in the private sphere were more likely to become re-employed if they lost a job. These results are influenced by the unique situation of an economy in great transformation, and can therefore not be easily generalized. The cohort comparison also shows that these 'better jobs' in the private sector became less secure after 1995 when the situation on the job market generally deteriorated.

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APPENDIX

In the original data matrix, each row corresponds to one individual respondent. However, in the event history analysis, units of analysis (rows) need to be defined instead as job/unemployment episodes at a particular point in time after the episode has begun. Therefore, we had to reshape the original data file twice for the purpose of this analysis. The first reshaping produced units (row) defined as individual labor market episodes rather than persons, and the second reshaping served to obtain units of analysis (observations) defined as episodes in a particular year after the beginning of the spell. The totals are: 14,468 observations at risk of job-to-job and of job-to-unemployment transitions (both with binomial response variable); 14,274 observations at risk of upward, lateral, and downward occupational mobility[8]; and 319 observations at risk of unemployment-to-employment transition. There are 3781 job-to-job transitions, and 1074 upward occupational moves, 1774 lateral occupational moves, 781 downward occupational moves, 71 exits from employment, and 33 exits from unemployment.

[8] The number of observations at risk of job-to-job mobility and the number of observations at risk of upward, lateral, and downward move differ slightly because each model employs different set of explanatory variables and thus each model suffers from a different number of missing data. Similarly, the sum of all upward, lateral, and downward moves does not equal to the total job to job moves (with a binomial response).

TABLES AND FIGURES

Table 9.1: Macroeconomic Development – Czech Republic 1991-1999

	1991	1992	1993	1994	1995	1996	1997	1998	1999
GDP in constant prices (percentage change)* **	-11,5	-3,3	0,6	3,2	6,4	3,9	1	-2,7	-0,4*
GDP in capita (US dollars)	2466	2903	3332	3977	5040	5620	5109	5412	5189
Share of trade in GDP (in percent)	66,9	63,1	82,8	80,9	89,6	85	95,2	99,1	104,2
Real exports of goods and services (percent change)	-	-	-	0,2*	16,7*	8,2*	9,2*	9,1*	6,3*
Real imports of goods and services (percent change)	-	-	-	7,6*	21,2*	13,4*	8,1*	6,5*	5,4*
Share of private sector in GDP (%)	15,0	30,0	45,0	65,0	70,0	75,0	75,0	75,0	80,0

Source: EBDR – Transition Report 2000

* Source – OECD Economic Outlook – April 2001

*** Constant prices in 1984 up to and including 1993; 1994 prices thereafter

Table 9.2: FDI stock per capita in Central and Eastern Europe (in USD); 2001

Country	FDI (in USD)
Czech Republic	2432
Hungary	2256
Estonia	2238
Slovenia	1508
Croatia	1372
Latvia	1021
Slovakia	1017
Poland	1009
Lithuania	759
Bulgaria	494
Romania	339
Russia	159

Source: The Vienna Institute for Comparative Economic Studies

Table 9.3: Unemployment in the Czech Republic (Share of unemployed from economically active population, in per cent)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Unemployment	4,1	2,6	3,5	3,2	2,9	3,5	4,3	6	8,5	9

Source: Ministry of Labor and Social Affairs

Table 9.4: Parameters of selected models of the job-to-job transition (logistic coefficients). Czech males, 1989-99.

	Model 1	Model 2	Model 3	Model 4
Intercept	-0.389***	-0.234**	-2.758***	-3.379***
Time				
Time	0.122	0.117	0.198**	0.075
Time squared	-0.081***	-0.078***	-0.077***	-0.040**
Time cubed	0.004***	0.004***	0.004***	0.002
Class				
Service class (comparison category)				
Routine non-manuals		-0.129	0.027	-0.060
Self-employed		-0.976***	-0.579***	-0.570***
Skilled workers or supervisors		-0.048	0.046	0.050
Unskilled workers		-0.149***	0.016	-0.015
Education				
Less than high school (comparison category)				
Completed high school			0.088	0.098*
Tertiary			-0.183**	-0.126
Ownership sector of the last job				
Public (comparison category)				
State-owned firm			0.271***	0.383***
Private			-0.619***	-0.047
Other			0.049	-0.191
Age			0.212***	0.178***
Age squared			-0.003***	-0.003***
Labor force experience (time varying)			-0.054***	-0.055***
Job entry cohort (1989- 1995 =1, otherwise=0)				1.287
Interactions				
Class*Job-entry Cohort				
Routine non-manuals*Cohort (1989- 1995)				0.082
Self-employed*Cohort (1989- 1995)				-0.091
Skilled workers*Cohort (1989- 1995)				-0.106
Unskilled workers*Cohort (1989- 1995)				-0.045
Sector*Cohort				
State-owned firm*Cohort (1989- 1995)				-0.195
Private*Cohort (1989- 1995)				-0.557***
Other*Cohort (1989- 1995)				0.365

Note: *- significant at the 0.1 level; **- significant at the 0.05 level; *** - significant at the 0.01 level.
Number of observations at risk = 14468, number of events = 3781.

Figure 9.1: Estimated log odds of a job to job transition by social class and time at risk. Czech males, 1989-99.

Note: From Model 2, number of observations at risk = 14,468, number of events = 3,781.

Table 9.5: Parameters of the multinomial logistic regression models of upward, lateral and downward occupational mobility as contrasted to no move (logistic coefficients), Czech males, 1989-99.

	Upward vs. no move	Lateral vs. no move	Downward vs. no move
Intercept	-4.688***	-3.831***	-4.026***
Time			
Time	0.155	0.280**	0.080
Time squared	-0.056*	-0.104***	-0.044
Time cubed	0.002	0.006***	0.002
Class			
Service Class (comparison category)			
Routine non-manuals	1.081***	-0.244*	-0.445**
Self-employed	0.089	-0.672***	-1.154***
Skilled workers or supervisors	1.132***	-0.206**	-0.705***
Unskilled workers	1.456***	-0.349***	-1.077***
Education			
Less than high school (comparison category)			
Completed high school	0.744***	-0.280***	-0.187*
Tertiary	0.682***	-0.268**	-0.881***
Ownership sector of the last job			
Public (comparison category)			
State-owned firm	0.297***	0.309***	0.061
Private	-0.479***	-0.489***	-0.966***
Other	0.265*	-0.038	0.157
Age	0.153***	0.220***	0.218***
Age squared	-0.002***	-0.003***	-0.003***
Experience (time varying)	-0.034***	-0.050***	-0.061***

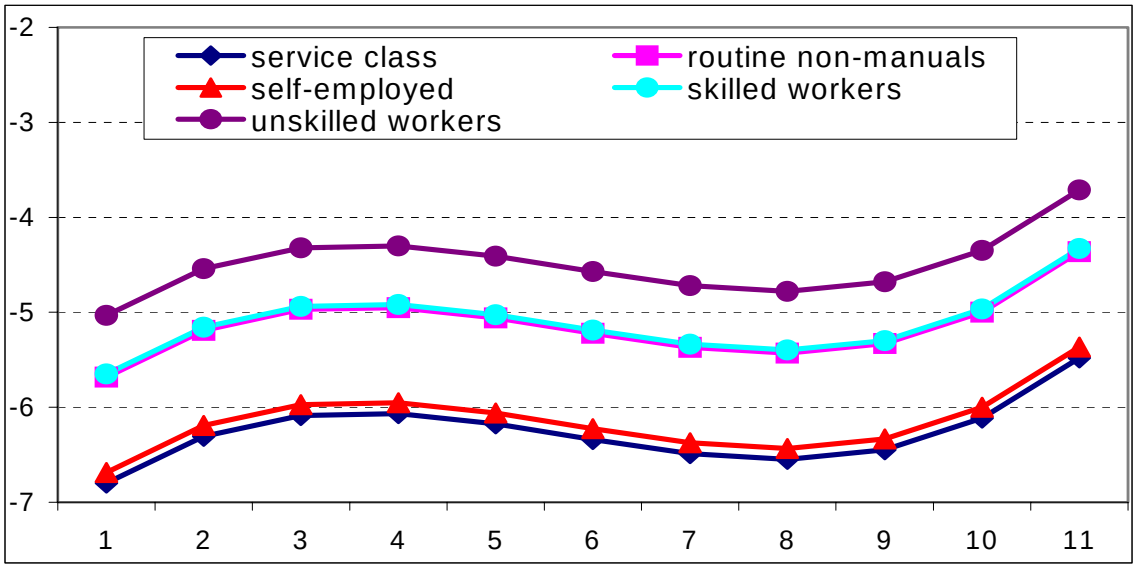
Note: *- significant at the 0.1 level; **- significant at the 0.05 level; *** - significant at the 0.01 level.
Number of observations at risk = 14274, number of upward moves = 1074, number of lateral moves = 1774, number of downward moves = 781.

Table 9.6: Parameters of selected models of the transition from employment to unemployment (logistic coefficients). Czech males, 1989-99.

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	-6.673***	-7.635***	-6.231***	-8.827***	-10.695***
Time					
Time	1.039**	1.032**	1.028**	0.928*	1.058**
Time square	-0.211**	-0.208**	-0.211**	-0.198**	-0.242**
Time cube	0.012**	0.012**	0.012**	0.012**	0.014***
Class (Controllers is the comparison category)					
Routine non-manuals		1.117*		0.765	1.118
Self-employed		0.114		-0.198	0.045
Skilled workers or supervisors		1.150***		0.616	1.017*
Unskilled workers		1.767***		1.162**	1.559**
Education (Less than high school is the comparison category)					
Completed high school			-0.558**	-0.082	-0.073
Tertiary			-2.010***	-0.813	-0.876
Ownership sector (Public is the comparison category)					
State-owned firm				0.325	1.651
Private				0.094	1.362
Other				0.218	1.559
Age				0.140	0.181
Age square				-0.003**	-0.004***
Experience (time varying)				0.070**	0.069**
Cohort (1989- 1995 =1, otherwise=0)					1.602
Interactions Class*Cohort					
Routine non-manuals*Cohort (1989- 1995)					-0.861
Self-employed*Cohort (1989- 1995)					-0.211
Skilled workers or supervisors*Cohort (1989- 1995)					-0.740
Unskilled workers*Cohort (1989- 1995)					-0.708
Sector*Cohort					
State-owned firm*Cohort (1989- 1995)					-1.829
Private*Cohort (1989- 1995)					-2.561**
Other*Cohort (1989- 1995)					-2.018

Note: *- significant at the 0.1 level; **- significant at the 0.05 level; *** - significant at the 0.01 level. Number of observations at risk = 14,468, number of events = 71.

Figure 9.2: Estimated log odds of the job to unemployment transition by social class and time at risk, Czech males, 1989-99.



Note: From model 2. Number of observations at risk = 14,468, number of events = 71.

Table 9.7: Parameters of selected models of the exit from unemployment (logistic coefficients), Czech males, 1989-99.

	Model 1	Model 2	Model 3
Intercept	1.701***	1.729***	-0.965
Time			
Time	0.175*	0.175*	0.160
Occupational status of the last job			
Non-manual (comparison category)			
Manual worker		-0.036	0.463
Education			
Less than high school (comparison category)			
High school or more			0.844
Ownership sector of the last job			
Non-private (comparison category)			
Private			1.454***
Age			0.053
Age squared			-0.001
Labor market experience (time constant)			0.088

Note: *- significant at the 0.1 level; **- significant at the 0.05 level; *** - significant at the 0.01 level. Number of observations at risk = 319, number of events = 33.