

# Unemployment Benefit Entitlement and Training Effects in Poland during Transition

by Patrick A. Puhani

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**Abstract:** We analyse the unemployment benefit regime change that occurred in Poland in December 1991 using data from the Polish Labour Force Survey. Before December 1991, the entitlement period to unemployment benefits was unlimited. Thereafter, it was reduced to 12 months (with a few exceptions).

Using the difference-in-differences approach within a hazard rate framework, we find that the regime change did not have a significant effect on the duration of unemployment. The results thus give credence to the view that the unlimited entitlement period of the old unemployment benefit regime was not the main culprit for the *long durations* of unemployment in Poland, although the generous eligibility criteria may have contributed to the increase in the *incidence* of registered unemployment at the beginning of the transition process.

In addition, we analyse the information on training programmes given in the Supplement to the Polish Labour Force Survey of August 1994. For the analysed period 1990-1994, we do not find any significant effects of public training programmes on the duration of unemployment.

#### **Non-Technical Summary**

The main purpose of this paper is to estimate the effect of limiting the entitlement to unemployment benefits on the basis of Polish data.

During the first phase of transition, the Polish unemployment rate increased from zero to 14% between 1990 and 1992. At the same time, the unemployment benefit entitlement period was unlimited. The benefit level was 70% of the most recent wage for the first 3 months. For the following 6 months, the replacement ratio declined towards 50% and to 40% thereafter.

This changed, however, in December 1991, when the entitlement period was – with a few exceptions – reduced to 12 months and the benefit level was set at a flat rate of 36% of the average wage in the economy in the previous quarter.

The initial generosity of the unemployment benefit regime is seen by many as an important contributing factor to the increase in registered unemployment at the beginning of the transition process. People who previously did not participate in the labour market could go to the employment office and draw unemployment benefits by registering themselves as unemployed.

Clearly, the reform of the unemployment benefit system of December 1991 managed to contain expenditures: whereas the percentage of the registered unemployed who received benefits was as high as 79% in 1991, that figure dropped down to 52% in 1992.

In this paper, however, we estimate whether the reform reduced the *duration* of unemployment for those indicating they were searching for work. We find that such an effect cannot be detected on the basis of individual data from the Polish Labour Force Survey. This suggests that although the reform might have increased the efficiency of the Polish unemployment benefit system in the sense that it reduced registration of people not actually searching for work, for most long-term unemployed persons (longer than 12 months in unemployment) the reduction of the benefit entitlement period had negative income effects, but no positive impact in terms of a quicker re-integration into the labour market.

Although these results may seem surprising, the studies by Micklewright and Nagy (1995) and Ham, Svejnar, and Terrell (1998) come to similar conclusions for Hungary and the Czech and Slovak Republics, respectively.

The framework and the data that are used in this study also allow to estimate the effects of training programmes (public and private) on unemployment duration. In its efforts to fight unemployment, the Polish government has started on active labour market policy (ALMP) as early as 1990. In 1994 (the end of our observation period), the share of ALMP participants in total unemployment was about 14%. Of those, 48% were in subsidised employment (intervention works), 27% in direct job creation (public works), 23% in labour market training and retraining (public training), and 2% received loans to start their own business.

For the analysed period 1990-1994, we do not find any significant effects of public training programmes on the duration of unemployment. On the other hand, people who have been on private training courses have shorter unemployment durations than those who have not.

#### 1 Introduction

During the first phase of transition, the Polish unemployment rate increased from zero to 14% between 1990 and 1992. At the same time, the unemployment benefit entitlement period was unlimited. This changed, however, in December 1991, when the entitlement period was – with a few exceptions – reduced to 12 months. The initial generosity of the unemployment benefit regime is seen by many as an important contributing factor to the increase in registered unemployment at the beginning of the transition process (Boeri and Keese, 1992; Góra, 1994; Steiner and Kwiatkowski, 1995).

An important question for social policy is the nature of the trade-off between equity and efficiency effects of the unemployment benefit system. The limitation of the benefit entitlement period reduced the support for the long-term unemployed, *i.e.* those that have not found a job after 12 months in unemployment. The purpose of this paper is to identify the effects of this limitation on the duration of unemployment. If the effects on unemployment duration are negligible, then the cut in the benefit entitlement had few positive efficiency effects, but negative equity effects for the long-term unemployed.

In order to reduce unemployment, the Polish authorities have – similar to other market economies – enacted active labour market policies from the very beginning of transition (for overviews see Góra, Lehmann, Socha, and Sztanderska, 1996; Lehmann, 1995; Puhani and Steiner, 1997; Puhani 1999). For the years up to 1994, the just cited studies have not found any positive employment effects of training irrespective of the methodology and data set employed. Only Puhani (1999) finds positive employment effects of training for the period 1992–1996. In this paper, we estimate the re-employment effects of public and private training programmes during the years 1990–1994.

Section 2 gives a very brief account of Polish labour market developments and policies at the beginning of the transition process. Econometric issues are discussed in Section 3. The sample and the variables of the subsequent empirical analysis are introduced in Section 4. We present the estimation results in Section 5 and conclude with Section 6.

# 2 Labour Market Developments and Policies

The beginning of the transition process in 1990 coincided with a negative aggregate demand shock through the collapse of CMEA<sup>1</sup> trade and stringent budgetary policies to stabilise the macroeconomy. High redundancy payments imposed on firms provided a disincentive to mass lay-offs and to recruiting younger people (Boeri, Burda, and Köllö, 1998, Chapter 4). The result has been a high youth unemployment rate and a stagnant unemployment pool characterised by moderate inflows and low outflows (Boeri, 1994; Franz, 1995).

Unemployment benefits (*i.e.* passive labour market policy) were enacted as early as 1989. During the first phase of transition, the duration of benefit payments was openended and the benefit level was 70% of the most recent wage for the first 3 months (Kwiatkowski, 1996a). For the following 6 months, the replacement ratio declined towards 50% and to 40% thereafter. The qualifying conditions were loose, in that one just had to register with the labour office as unemployed in order to draw benefits. Officially, people could have been put off the register if they refused two adequate jobs or participation in active labour market policy schemes. However, labour offices seem to have been very generous in this respect (Góra and Lehmann, 1995).

The Act on Employment and Unemployment of October 1991, which took effect in December 1991, changed the Polish system of unemployment benefits drastically

<sup>&</sup>lt;sup>1</sup> Council for Mutual Economic Assistance, also abbreviated COMECON.

(Góra and Schmidt, 1997). The entitlement period is now principally limited to 12 months and the benefit level is a flat rate of 36% of the average wage<sup>2</sup> in the economy during the previous quarter. A further important change has been the introduction of a 3-month waiting period for school leavers. As a result of the regime change, the share of benefit claimants in the total unemployment stock decreased from 79.0% in December 1991 to 52.3% in December 1992 (GUS, 1995).

Poland has started on active labour market policy (ALMP) as early as 1990. In 1994, the share of ALMP participants in total unemployment has been about 14%. Of those, 48% were in subsidised employment (intervention works), 27% in direct job creation (public works), 23% in labour market training and retraining (public training), and 2% received loans to start their own business (Kwiatkowski, 1996b).

As the unemployment benefit regime change as well as the training programmes can be expected to impact on the re-employment probabilities of the unemployed, empirical hazard rate models are an adequate way to estimate the effects of unemployment benefits and training. The following section presents the hazard rate model which will be estimated in Section 5 and discusses other relevant econometric issues.

#### 3 Econometric Issues

We estimate a logit-type hazard rate model which has been introduced by Nickell (1979). More formally, the hazard rate of individual i for exit into employment in discrete process time t is specified as

<sup>&</sup>lt;sup>2</sup> There are exceptions to this rate. School leavers under 18 years of age receive 12% of the average wage, those above 18 receive 28%. In 'crisis areas' designated by the government, the rate is 52% if job loss occurred through a group lay-off.

$$h \bigoplus_{i} \varepsilon_{i} = \frac{\exp(\mathbf{B} \mathbf{x}_{i} + \boldsymbol{\alpha} \mathbf{p}_{i} + \varepsilon_{i})}{1 + \exp(\mathbf{B} \mathbf{x}_{i} + \boldsymbol{\alpha} \mathbf{p}_{i} + \varepsilon_{i})},$$

where  $\mathbf{x}$  is a set of characteristics. The vector  $\mathbf{p}$  consists of time-varying dummy variables defined on process time intervals.  $\mathbf{p}$  thus defines a non-parametrically estimated baseline hazard rate.

 $\varepsilon$  is the unobserved individual heterogeneity component. Following Heckman and Singer (1984), we specify  $\varepsilon$  to be drawn from a discrete distribution with  $\vartheta$  mass points and restrictions

$$E[\varepsilon] = \sum_{i=1}^{\vartheta} \Pr \mathcal{E} \mathbf{A} = 0$$
, and  $\sum_{i=1}^{\vartheta} \Pr \mathcal{E} \mathcal{G} \mathbf{i}$ .

It is further assumed that  $\varepsilon$  is orthogonal to the covariates x and p (cf. Steiner, 1997).

Assuming the individuals in the sample are drawn as independent observations, the likelihood function of the hazard rate model for the sample is given by

$$L = \prod_{i=1}^{N} \sum_{j=1}^{n} \Pr \bigotimes_{i} \stackrel{\text{def}}{=} \mathbf{x}_{i}, \varepsilon_{i} \stackrel{\text{def}}{=} \prod_{i=1}^{r_{i}-1} [1 - h \bigotimes_{i}, \varepsilon_{i}],$$

where  $\delta_i$  equals one if the spell of individual i ends at time t and zero otherwise.

Within this framework, the effect of the unemployment benefit regime change will be estimated by a difference-in-difference approach: we separately interact process time with both the dummy variable for unemployment benefit receipt and the dummy variable for the new regime. In addition, we interact all three variables: process time, unemployment benefit receipt, and new regime. The coefficients on the last type of interaction terms can be interpreted as a difference-in-difference estimate of the effect of the unemployment benefit regime change (cf. Hunt, 1995).

Another econometric issue that arises is the problem of endogeneity bias when trying to identify causal effects from programme participation dummies. The problem is that individuals in the training programmes may well be a self-selected group, selected, for the example, on their prospects of leaving unemployment fast. We address this problem by the so-called *linear control function estimator* (Heckman and Hotz, 1989; for applications see Pannenberg, 1995; O'Leary, 1997; Puhani, 1999) plus a test on the existence of unobserved heterogeneity  $\varepsilon$ . The principle of the linear control function estimator is to control for the heterogeneity between the treatment (programme participation) and comparison group by including all variables in the estimation that influence both programme participation and outcome (here unemployment duration). Whether the variables that are included in the model are sufficient to control for this heterogeneity can be checked by testing for the existence of unobserved heterogeneity. This will be done by the Akaike Information Criterion (see, for example, Gourieroux and Monfort, 1989). If no unobserved heterogeneity can be detected, one may infer that no selection bias is present. The data will be presented in the following section.

#### 4 Data and Variables

Our data base is the Polish Labour Force Survey (PLFS) with data from its Supplement on the Evaluation of Labour Market Policies of August 1994. The PLFS conducted by the Central Statistical Office (GUS) of Poland is a representative sample of the Polish population aged 15 and above. The duration data on unemployment spells comes from retrospective information in the Supplementary Survey, where interviewees state when and for how long they were looking for a job the last time they were unemployed.<sup>3</sup> We generally define unemployed as looking for

This data relies on retrospective questions so that some measurement errors may occur especially when interviewees have to think some years back. As we deleted all persons from the sample who stated that they were both working and looking for a job, we hope to have eliminated the most serious measurement errors.

a job off the job, *i.e.* those people who have been or are looking for a job whilst having a permanent full-time occupation are not included in the sample.<sup>4</sup> According to the International Labour Office (ILO) definition of unemployment, we do not count people as unemployed who are looking for a job although they are not ready to take one up in the reference week or the following one.

Table 1 contains summary statistics of the sample consisting of 4,353 men and 4,441 women who are or have been unemployed.<sup>5</sup> Control variables that are likely to influence unemployment duration are age, family status, disabilities, educational and occupational achievement. However, the industry a person has worked in may also have an effect on re-employment through industry-specific human capital. People who have been previously unemployed <sup>6</sup> and school leavers may have difficulties to (re-)enter the labour market. We define school leavers to be people aged 30 or younger with no work experience.

Since there is a large and stable variation in labour market performance between regions (OECD, 1998, Chapter 5), we also control for the size of the *place of residence* and the (registered) voivodship unemployment rate.

The age, voivodship unemployment rate, and process time variables are time-varying. For the other variables, we do not have information on their variance over time, only their value as of August 1994. An exception is occupation, where we have information on a person's former occupation as well as his or her occupational degree, the latter being used in case the person has never been in employment.

<sup>&</sup>lt;sup>4</sup> In Poland, unemployed people are allowed to work whilst drawing benefits as long as they do not earn more than half the minimum wage (Kwiatkowski, 1996a).

<sup>&</sup>lt;sup>5</sup> The appendix has some detail on how we get down to that number.

<sup>&</sup>lt;sup>6</sup> The information on previous unemployment spells derives from a question how often a person has been unemployed before. Using this information, we define a dummy variable equal to *one* if the person has been unemployed before the spell in question. It has to be kept in mind that we are not able to check whether this previous unemployment is unemployment according to the ILO definition or whether it is only unemployment as perceived by the interviewed person.

We include a dummy taking on the value of *one* for people who are or were *registered* with a labour office as looking for a job, but do or did not receive unemployment benefits. This variable may give some indication of the usefulness of labour offices in the matching process. As the new unemployment benefit regime of December 1991 meant a drastic change in the incentive structure for unemployed people who receive *unemployment benefits*, we control for the time of entry into the spell by the *new regime* dummy. As there was a lot of grandfathering after the regime change (*i.e.* a lot of people who became unemployed before the change were still operating under the old regime even after the change), we consider somebody to be in the new regime if he or she became unemployed in or after December 1991.

We do not know directly from the survey whether a person is entitled to *benefits until* retirement. However, for those who were employed in August 1994 we know the years of work experience and infer that benefits are paid until retirement if years of work experience at the beginning of the spell exceeded 30 years for men or 25 years for women. For people currently not in employment, but who used to have a job, we guesstimate work experience to be age minus age after education.

As to the *training* variables we cannot identify when exactly a person has participated in a training scheme. We only know whether someone is currently on the course (these people have *training* set equal to *zero*), has undergone training within the period August 1993 till August 1994 (these people have *training* set equal to *zero* if their unemployment spell ended before that period), or has finished a course before August 1993 (these people all have *training* set equal to *one*). Due to the patchy information on training, the conclusions drawn from this study should not be too strong. The duration model framework merely provides another perspective on the evidence from these data which have already been evaluated in Puhani and Steiner (1997), albeit with a different methodology.

Finally, we control for the season of entry into unemployment by *seasonal dummies*. Unfortunately, there are not enough observations in the survey to look into the effects

of intervention works, public works, or loans on the duration of unemployment, so that the effects of these programmes cannot be estimated. As far as active labour market policies are concerned, we will therefore restrict ourselves to estimating the effects of public training in the following section.

Table 1: Sample Means

Variable	M	Mean		
	Men	Women		
Age between				
18 and 25	0.375	0.372		
26 and 35	0.278	0.298		
36 and 45	0.252	0.255		
46 and 55	0.095	0.075		
Single	0.424	0.315		
Single * new regime	0.377	0.274		
Single * children	0.005	0.041		
Children	0.403	0.530		
No information on children	0.461	0.330		
Disabled	0.064	0.042		
Education				
Higher	0.045	0.041		
Post-secondary	0.014	0.042		
Secondary vocational	0.184	0.266		
Secondary general	0.028	0.116		
Basic vocational	0.507	0.342		
Primary or less	0.223	0.193		
Occupation				
Manager	0.030	0.020		
Professional	0.025	0.057		
Technician	0.082	0.152		
White collar	0.028	0.115		
Personal services	0.064	0.234		
Farmer	0.112	0.086		
Industrial worker	0.390	0.158		
Simple blue-collar	0.130	0.031		
Other simple jobs	0.139	0.148		
Industry				
Agriculture, forestry, fishing	0.148	0.094		
Mining, manufacturing	0.251	0.244		
Electricity, gas, water	0.014	0.005		
Construction	0.176	0.022		
Trade, repairs	0.102	0.212		

0.010	0.039
0.048	0.021
0.008	0.018
0.016	0.015
0.059	0.035
0.015	0.054
0.014	0.065
0.173	0.214
0.222	0.255
0.205	0.215
0.152	0.148
0.421	0.382
16.15	15.41
(6.11)	(6.17)
0.250	0.188
0.170	0.192
0.850	0.804
0.598	0.593
0.517	0.482
0.105	0.101
0.129	0.155
0.015	0.021
0.027	0.025
0.028	0.016
0.211	0.214
0.319	0.299
0.287	0.306
0.184	0.181
4,353	4,441
	0.048 0.008 0.016 0.059 0.015 0.014 0.173  0.222 0.205 0.152 0.421 16.15 (6.11) 0.250 0.170 0.850 0.598 0.517 0.105 0.129  0.015 0.027 0.028  0.211 0.319 0.287 0.184

Note: All variables are dummy variables except the quarterly voivodship unemployment rate (in percent).

Source: Polish Labour Force Survey; own calculations; except voivodship unemployment rate: Central Statistical Office (GUS) of Poland.

#### 5 Estimation Results

Before the discussion of the estimated hazard rate models, we test for the presence of unobserved heterogeneity. Table 2 presents the estimated Akaike Information Criteria (AIC) for both models with and without unobserved heterogeneity. It can be seen that on the basis of the AICs, the models without unobserved heterogeneity are preferred both for men and for women.

Table 2: Model Choice on the Basis of the Akaike Information Criterion

Model	Number of Parameters	M	en	Wom	ien
		ln (lik.)	AIC	Ln (lik.)	AIC
No unobserved heterogeneity	84	-6822.64	-6906.64	-6570.71	-6654.71
2 mass points $(\vartheta = 2)$	86	-6822.64	-6908.64	-6570.71	-6656.71

Notes: ln (lik.): natural logarithm of the likelihood;

AIC: Akaike Information Criterion = ln likelihood – number of estimated parameters; model choice is based on the maximum AIC (Gourieroux and Monfort, 1989, p.348); the estimated ln likelihoods differ only in the fourth digit after the comma between the models with and without unobserved heterogeneity.

Source: Polish Labour Force Survey; own calculations.

Consequently, Table 3 presents the hazard rate models without unobserved heterogeneity. In some respects, the model yields expected results. Young unemployed people have better re-employment chances than older persons. However, this is not the case if these young people have no work experience, *i.e.* if they are school leavers. As can be seen from the table, the negative coefficient on school leavers more than compensates the positive one on young age. Further results that one may have expected are that people with higher education, those who live in big cities, and those who have a background in a service industry have comparatively high re-employment chances. On the other hand, the re-employment chances are relatively bad for the disabled, women with children, and people who have had previous unemployment spells. In addition, benefit entitlement until retirement and registration

with a labour office decreases the likelihood of becoming re-employed soon.

As far as occupations are concerned, it is remarkable that for both sexes, industrial workers and people in *other simple jobs* have *ceteris paribus* amongst the shortest spell lengths. These groups were probably not thrown in a completely new working environment after the introduction of a market economy and were therefore able to find new employment fairly quickly. On the other hand, jobs demanding more skills (technical and white–collar jobs<sup>7</sup>) will be more difficult to find by the unemployed who have become outsiders.

Public training has no significant effect on the duration of unemployment (only the coefficient for women is positive but insignificant). On the other hand, people who (re-)train themselves and pay for it out of their own pockets have better reemployment chances. The same is true of people who have been paid a training course by their employers. This is an expected result as employers would only finance the training of their more competitive employees, so that unemployment spells of these people probably constitute mostly frictional unemployment. The fact that no unobserved heterogeneity could be detected in our models gives credence to the view that our estimates control for the heterogeneity between training participants and non-participants such that unbiased programme effects are obtained. Nevertheless, as the information on the length and timing of the training courses is very sparse in the Polish Labour Force Survey of August 1994, we should see our results on training as tentative evidence.

Table 3 shows the coefficients of the process time dummies as well as the interactions of process time and new regime, process time and unemployment benefit, and process time and new regime and unemployment benefit, respectively. These variables can be interpreted in the following way: the process time dummies without interactions show

the development of the hazard rate over process time in the old regime without receipt of unemployment benefit. The estimated hazard rates with receipt of unemployment benefit in the old regime are obtained from adding the coefficients of the process time dummies with the ones of the process time dummies interacted with unemployment benefit receipt. Similarly, the hazard rates for the new regime are calculated by adding the interactions of process time and the new regime dummy to the ordinary process time dummies (new regime without unemployment benefit). The hazard rates for unemployment benefit recipients in the new regime are received by adding all the respective coefficients on the interaction terms to the coefficients of the ordinary process time dummies.

The effects of the benefit regime change are estimated by the difference-indifferences approach as the coefficients on the interaction terms of the *new regime*, unemployment benefit and process time dummies (the last block of coefficients in the table).

Observing the estimated coefficients, it is shown that there is for both men and women a peak in the hazard rate after 10 to 12 months in unemployment. It is important to note that this peak is not only found for unemployment benefit recipients in the new regime, but also for non-recipients. Moreover, the peak occurs also in the old regime both for benefit recipients on non-recipients. Maybe the period of one year in unemployment acts as a psychological barrier after which a significant number of the unemployed increase their search efforts and/or lower their reservation wages irrespective of their unemployment benefit entitlement.

The estimation results thus suggest that the effects of the unemployment benefit regime change on the duration of unemployment were not very large. Indeed, the interaction terms of the new regime, unemployment benefit, and process time dummy

<sup>&</sup>lt;sup>7</sup> Here, especially people who find it difficult to keep track with the computer revolution will have

variables are not significant at the 5 percent level. We may thus infer that reducing the unlimited unemployment benefit entitlement period to 12 months had no major effects on the duration of unemployment in Poland. This corroborates evidence for the former Polish voivodship of Ciechanov by Boeri and Steiner (1998) and is consistent with the persistently high level of long-term unemployment in Poland (Góra and Schmidt, 1997).

In sum, our estimation results on the unemployment benefit regime change give credence to the view that the unlimited entitlement period at the start of the Polish transition process was not the main culprit for the *long durations* of unemployment. This does not contradict the hypothesis that the generous eligibility criteria may have contributed to the increase in the *incidence* of registered unemployment at the beginning of the transition process (Boeri and Keese, 1992; Góra, 1994; Steiner and Kwiatkowski, 1995).

difficulties.

As there was a lot of grandfathering after the regime change (i.e. a lot of people who became unemployed before the change were still operating under the old regime even after the change), we also estimated the models with December 1990 as the dividing line (assumption of no grandfathering), and with leaving out all persons who became unemployed between December 1990 and December 1991 (to avoid distortions through a mixed regime). It showed that the insignificance of the regime change is robust with respect to these alternative specifications. The interaction terms of new regime, unemployment benefit, and process time month are insignificant both individually and jointly in all specifications.

**Table 3: Estimation Results of Hazard Rate Models** 

	Men	1	Wome	ęn
	Coeff.	t	Coeff.	t
Age between (36 and 45)				
18 and 25	0.702	8.91	0.387	4.69
26 and 35	0.193	2.81	-0.103	-1.41
46 and 55	-0.009	-0.09	-0.143	-1.04
Single	-0.402	-3.01	-0.126	-1.01
Single * new regime	0.243*	1.81	0.236*	1.81
Single * children	-0.119	-0.32	0.018	0.11
Children	0.078	0.94	-0.357	-4.10
No information on children	-0.250	-2.57	-0.106	-1.06
Disabled	-0.589	-5.28	-0.522	-3.42
Education (basic vocational)				
Higher	0.284	1.99	0.811	5.45
Post-secondary	0.306	1.50	0.509	3.81
Secondary vocational	0.305	4.43	0.356	4.78
Secondary general	0.152	0.95	0.187*	1.96
Primary or less	-0.044	-0.62	-0.231	-2.64
Occupation (industrial worker)			:	
Manager	-0.083	-0.56	-0.521	-2.67
Professional	0.148	0.79	-0.513	-3.20
Technician	-0.309	-2.79	-0.899	-7.36
White collar	0.001	0.01	-0.807	-6.56
Personal services	0.017	0.16	-0.502	-4.33
Farmer	-0.270	-1.47	-0.516	-2.29
Simple blue-collar	-0.025	-0.31	-0.604	-3.33
Other simple jobs	0.068	0.83	-0.170	-1.55
Industry (mining, manufacturing)				
Agriculture, forestry, fishing	-0.379	-2.42	0.022	0.11
Electricity, gas, water	0.432	2.33	0.980	3.08
Construction	0.027	0.36	-0.096	-0.44
Trade, repairs	0.117	1.27	0.644	6.20
Catering	-0.023	-0.10	0.273*	1.64
Transport, communication	0.048	0.40	0.486	2.67
Financial intermediation	0.315	1.27	1.092	6.42

			,	
Real estates, renting	0.202	1.15	0.476	2.32
Public administration	0.245	2.14	0.832	5.93
Education	0.536	2.85	0.569	4.30
Health, social work	0.155	0.85	0.824	7.11
Other services, none, not known	0.123	1.05	0.276	2.12
Place of residence (countryside)				
100,000 inhabitants or more	0.287	4.11	0.289	4.06
20,000 to 99,999	0.077	1.09	0.078	1.06
19,999 or less	0.083	1.08	-0.097	-1.15
Voivodship unemployment rate	-0.004	-0.74	0.002	0.43
Previously unemployed	-0.972	-11.90	-1.217	-10.99
Registered	-0.286	-3.72	-0.360	-4.45
Unemployment benefit until pension	-1.957	-8.42	-1.162	-6.95
School leaver	-0.866	-5.98	-0.810	-5.49
Training Programmes				
Public training	-0.071	-0.36	0.238	1.54
Self-financed training	0.350	2.71	0.324	2.34
Employer- financed training	0.667	5.46	0.959	6.34
Beginning of unemployment spell				:
1st quarter	-0.026	-0.37	-0.109	-1.49
3rd quarter	-0.388	-5.77	-0.400	-5.73
4th quarter	-0.097	-1.35	-0.108	-1.39
Process time month (0-3 months)				
4-6	0.066	0.35	-0.542	-2.69
7-9	-1.388	-3.70	-1.501	-4.67
10-12	-0.162	-0.66	-0.103	-0.51
13-15	-1.429	-3.06	-2.064	-4.02
16-18	-1.169	-2.72	-1.595	-3.75
19-21	-2.928	-2.90	-3.355	-3.33
22-24	-0.266	-0.83	-0.658	-2.17
25-60	-1.841	-6.23	-1.505	-6.65
New regime * process time month				
0-3	0.031	0.23	-0.521	-4.05
4-6	-0.347*	-1.81	-0.120	-0.56
7-9	0.469	1.18	-0.115	-0.31
10-12	0.309	1.21	-0.166	-0.74
13-15	0.654	1.27	0.719	1.24

0.720	1.48	0.452	0.89
1.810*	1.67	0.720	0.59
0.057	0.13	0.364	0.91
0.518	0.68	0.384	0.61
-1.116	-5.73	-1.421	-8.11
-0.857	-3.63	-0.359	-1.57
0.346	0.82	-0.490	-1.23
0.123	0.45	-0.535	-2.31
0.230	0.42	0.434	0.77
0.167	0.33	0.125	0.26
-0.447	-0.32	0.526	0.47
-0.127	-0.32	-0.248	-0.69
0.638	1.96	-0.384	-1.49
-0.053	-0.25	0.277	1.38
0.469*	1.75	-0.315	-1.18
-0.403	-0.86	0.199	0.42
-0.161	-0.52	0.392	1.43
0.061	0.10	-0.334	-0.51
0.034	0.06	0.451	0.77
0.389	0.26	0.287	0.21
0.725	1.32	-0.028	-0.06
-0.719	-0.73	0.572	0.79
-2.355	-14.06	-1.906	-11.44
-6822.641 -6570.713		13	
46,10	46,105 53,152		2
4,353	3	4,441	
	1.810* 0.057 0.518  -1.116 -0.857 0.346 0.123 0.230 0.167 -0.447 -0.127 0.638  -0.053 0.469* -0.403 -0.161 0.061 0.034 0.389 0.725 -0.719 -2.355 -6822.6 46,10	1.810*       1.67         0.057       0.13         0.518       0.68         -1.116       -5.73         -0.857       -3.63         0.346       0.82         0.123       0.45         0.230       0.42         0.167       0.33         -0.447       -0.32         -0.127       -0.32         0.638       1.96         -0.053       -0.25         0.469*       1.75         -0.403       -0.86         -0.161       -0.52         0.061       0.10         0.034       0.06         0.389       0.26         0.725       1.32         -0.719       -0.73         -2.355       -14.06	1.810*         1.67         0.720           0.057         0.13         0.364           0.518         0.68         0.384           -1.116         -5.73         -1.421           -0.857         -3.63         -0.359           0.346         0.82         -0.490           0.123         0.45         -0.535           0.230         0.42         0.434           0.167         0.33         0.125           -0.447         -0.32         0.526           -0.127         -0.32         -0.248           0.638         1.96         -0.384           -0.053         -0.25         0.277           0.469*         1.75         -0.315           -0.403         -0.86         0.199           -0.161         -0.52         0.392           0.061         0.10         -0.334           0.034         0.06         0.451           0.389         0.26         0.287           0.725         1.32         -0.028           -0.719         -0.73         0.572           -2.355         -14.06         -1.906           -6822.641         -6570.7           46,105<

Notes: In likelihood: natural logarithm of the likelihood; shaded (asterisked) coefficients are significant at the 5 (10) percent level. Source: Polish Labour Force Survey; own calculations.

#### 6 Conclusions

Using Polish data, we have estimated the effects of limiting the unemployment benefit entitlement period from an unlimited period of time to generally 12 months. We come to the conclusion that the regime change, which occurred in Poland in December 1991, had no significant effect on unemployment durations.

Our results are similar to the ones of other studies for the Visegrád countries. Micklewright and Nagy (1995) find that unemployment durations are not much affected by changes in unemployment benefits in Hungary, which had a benefit regime change similar to the one of Poland. Also, Ham, Svejnar, and Terrell (1998) conclude that the negative incentives caused by the unemployment benefit system are rather minor in both the Czech and the Slovak Republics.

Within the duration model framework which has been applied in this paper, we have also estimated the effects of training programmes organised by labour offices on the re-employment chances of the unemployed. It is shown that no significant employment effects of public training measures can be found for the period 1990-1994. Previous literature on training programmes in Poland for the same period reaches similar conclusions (*cf.* Góra, Lehmann, Socha, and Sztanderska, 1996; Lehmann, 1995; Puhani and Steiner, 1997).

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# Appendix

The number of persons both in the Polish Labour Force Survey of August 1994 and its Supplement on the Evaluation of Labour Market Policies is 47,393. From these 10,634 state that they are or were looking for a job. We then reduce the sample size by those who were properly employed whilst looking for a job (down to 9,391), those who say they are looking for a job, but are not unemployed according to ILO recommendations as they are not ready to take up a job within the following week (down to 9,132), and those who are not aged between 18 and 55 at the beginning of their unemployment spell (down to 8,794). So we are left with 4,353 men and 4,441 women.



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