

*The Impact of Education and Training Systems on the Labour Market  
Participation of young people in CEE economies.  
A comparison of Poland and Slovenia<sup>1</sup>*

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**Abstract**

Little attention has been given to youth unemployment in transition countries. However, it has significant detrimental effects in factors that affect welfare in the longer term, like human capital accumulation and fertility rates. The aim of this paper is to study the determinants of labour market participation of young people in Poland and Slovenia, two countries that implemented different reform paths to the market system. The analysis is carried out using individual level data drawn from the labour force survey rounds in 1997 and 2002. The focus is on education and training systems. In particular, we intend to test whether labour market participation decisions and occupational choices of young people are independent of each other. The alternative hypothesis is that educational decisions are affected by the options available and by the sequence according to which such options are presented to young people. We test this general issue comparing the results of multinomial LOGIT and sequential LOGIT estimates. We find that tertiary educational attainment works as a buffer against unemployment especially for the young adults.

**JEL Classification:** J24, C35, P3, P52

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## **1. Introduction**

Although partly unexpected (see, for instance, the predictions contained in Lipton and Sachs, 1990; and Aghion and Blanchard, 1994), unemployment persistence has been soon recognised (OECD, 1994) as one of the most remarkable features of economic transition all over Central and Eastern Europe (CEE). Little attention has been given, instead, to youth unemployment, despite the fact that unemployment rates of young people below 25 were twice as high or even higher than the national average in the entire region at the end of the 1990s. However, high youth unemployment rates have significant detrimental effects in factors that affect welfare in the longer term, like human capital accumulation and fertility rates.

The reason of increasing youth unemployment is to be found in the dynamics of reforms and of the ensuing restructuring process. Especially at the outset of transition, but in many cases also all over the 1990s, the restructuring process has made job losses and job quits the main cause of unemployment (Boeri, 2000; Newell and Pastore, 2000; Boeri and Terrell, 2002). However, with time passing, the share of new entrants in the unemployment pool has increased remarkably, despite the conspicuous reduction in the youth labour market participation, making it one of the most important components of persistent unemployment, and one to look at with much worry.

Increasing youth unemployment is a typical and dramatic consequence of unemployment persistence. In fact, with the unemployment pool becoming stagnant, the average probability of job finding reduces also for the young people entering unemployment. As a growing body of literature is ascertaining (Blanchard and Wolfers, 2000; Shimer, 2001; and Jimeno and Rodriguez-Palenzuela, 2002), while the unemployment rate of middle-aged workers is quite stable, that of young people is fluctuating in OECD countries, affecting the evolution of the average unemployment rate. According to Jimeno and Rodriguez-Palenzuela (2002), two main groups of factors affect the fluctuations of the youth unemployment rate: a) demographic factors determine the inflow of young people in the labour market in the long run; b) institutional factors, including the educational and training system and the degree of flexibility of the labour market, determine the probability of a given stock of young people to find gainful employment. Institutional differences are especially important when analysing cross-country youth unemployment differentials. In other words, increasing unemployment persistence, on the one hand, and “old” labour market institutions, on the other hand, could establish a vicious circle in CEE unemployment, which only adequate design of education and training systems and labour market institutions is able to tackle.

However, little research has been carried out so far on the impact of various labour market institutions, including education and employment policy, on the employability and, more generally, on the labour market participation of young people in CEE. The aim of this paper is to fill this gap. More specifically, we aim to study the labour market impact of different types of institutional settings on the labour market participation of young people, controlling for

individual characteristics. We intend to deal with this issue from a micro-econometric standpoint, using individual level data.

Moreover, we aim to test whether labour market participation decisions of young people are independent of each other. The alternative hypothesis is that educational decisions are affected by the options available and / or follow a given sequence. We will address this issue testing whether a multinomial LOGIT model is the most adequate compared to a sequential LOGIT model to explain the choices of young people.

This study will focus on Poland and Slovenia. We believe these two countries represent very different transition stories and welfare systems. In a nutshell, Poland is the best example of (successful) fast transition, but has experienced also one of the highest unemployment rates in CEE. Slovenia is the best example of (successful) gradual transition. And unemployment is lower than the CEE average. The analysis is carried out on the Polish and Slovenian LFS.

The outline of the paper is as follows. Section Two discusses the main peculiarity of youth labour markets in Europe in a comparative perspective. Section Three highlights the problem of youth unemployment in CEEC with special emphasis on Poland and Slovenia. Section Four gives data description and the definitions of variables while section Five introduces the econometric methodology adopted. Section Six discusses the results and is followed by some concluding remarks.

## **2. The nature of youth unemployment**

The youth activity rate is generally lower than the adults' in almost every country. Low labour force participation crucially depends on the educational, vocational and training systems, on the one hand, and on the labour market institutions, on the other hand. Cross-country differences in the degree of efficiency of the educational system explain most part of the differences in the participation rate of young people. In almost every country, the teenagers (15-19) tend to have lower participation rates, due to school attendance, whereas the young adult's (20-24) participation is generally dependent on the effectiveness of training systems in favouring a smooth transition from school to work. Germany is the exception: there, young adults have slightly higher unemployment rates than teenagers.

An efficient education system reduces also the share of young adults flowing into the unofficial economy and / or into social exclusion or marginalisation (Hammer and Julkunen, 2002). In fact, it reduces the number of unskilled young workers entering the labour market with little, if any probability of finding a good job. Among the cultural factors, the family background of individuals and the types of welfare systems should be also mentioned.

Common across all OECD countries is the large and perhaps growing number of unemployed workers among the youth population. ILO (1999, p. 1) claims that, on average, and almost everywhere, young people (who enter the labour market) are about twice as likely to be unemployed as adults.

When considering the causes of youth unemployment, one should bear in mind that a high unemployment rate mirrors the low employment rate among young people. This last depends on two groups of factors. First, it depends on the level of aggregate demand and income growth. Nonetheless, holding constant the rate of GDP growth across countries, differences still exist in the youth unemployment rates, suggesting that the structure and features of the youth workforce as well as the institutions prevailing in the labour market also matter.

Large evidence exists of the fact that the flows in and out of employment are very high among the youngest (Clark and Summers, 1982). These flows are due to various factors, such as the tendency to return to education or to go into training and re-training schemes. Especially when on-the-job training is missing, young workers often prefer (or are forced) to stay out of the labour market to participate to formal off-the-job training. This means when school-to-work transitions are not smooth, there is place for frequent unemployment spells and fragmented labour market experiences, which could in some cases be conducive to long term unemployment.

Also the flows between employment and unemployment are very frequent for some sub-groups of particularly low skill young workers. Unemployment and employment spells are generally shorter than for high skill young and adult workers, due to their tendency to enter a chain of low pay temporary and or part-time work. The low outflow from unemployment into a stable occupation<sup>2</sup> of some groups of young people depends also on the tendency on the part of firms to prefer the adults. This is due, in turn, to the lower skill and experience level of the latter, that an inefficient education and training system is unable to outweigh. The cost of on-the-job training for young workers by firms significantly increases the cost of hiring them.

Furthermore, except for Southern European countries, such as Italy and Spain (Caroleo and Pastore, 2002a), young men are worse off in terms of lower job finding and / or higher job loss rates compared to their female counterparts (see for a cross-country comparison Ryan, 2001; and O'Higgins, 2001), also in CEECs (Blanchflower and Oswald, 1998).

The previous analysis suggests two very different paths are offered to young workers in almost every country. On the one hand, some young workers enter a positive virtuous circle that leads from education to (and) training to work. On the other hand, some groups of young people get stuck into unemployment. Once entered unemployment early in life, a young worker has got higher probabilities to permanently enter the bulk of long term unemployment also later on in his life. O'Higgins *et al.* (2001) find evidence that this is certainly the case of Bulgaria.

As noted, among others, in O'Higgins (2001) and O'Higgins *et al.* (2001), in turn, this suggests that youth unemployment and employment policies should be especially targeted to those young people that have a weak position

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2 By "stable" occupation we mean here a type of occupation that is not of short length, but not necessarily on the same permanent full-time job. The degree of labour turnover has increased everywhere, also and, perhaps, especially for young workers. However, a stable occupation is not inconsistent with job-to-job moves if they do not imply (frequent) unemployment spells.

in the labour market. The main aim of employment policy targeted to young workers should be, above all, an efficient education system able to increase (reduce) the number of those entering the first (second) path.

### **3. Youth unemployment and employment policy in CEE**

Economic transition is a system change involving dramatic shifts in labour demand across sectors (Aghion and Blanchard, 1994; Boeri, 2000; Roland, 2000). In turn, this implies labour supply, especially that of the youngest segment of the working population, should adapt to a completely new production system. The ability of young people to upgrade their skills to the needs of the market economy involves not only learning technical notions, but, perhaps more importantly, passing through a cultural change. In a way, the success of the reform process is up to the ability of young people to face the challenges of a market economy. However, such ability depends not only on individual skills, but also on the effectiveness of the education and training system, on the one hand, and of the welfare system and of labour market institutions, on the other hand. There is much evidence to believe these factors did not work properly over transition (Boeri, Köllö and Burda, 1997; and Boeri, 2000).

As a consequence, young people, in particular school leavers without work experience, are the group hardest hit by unemployment, despite the sharp decline in their participation rates. In most transition countries, unemployment rates of young people below 25 are twice as high or even higher than the national average. O'Higgins *et al.* (2001) found in Bulgaria the ratio of youth to adult unemployment (2.1) was higher than the EU average (1.9) in December 2000. Based on the most recent data (ILO, 2002/2003) in Poland the ratio of youth to adult unemployment was almost 3, while in Slovenia amounted to almost 2.8 (See Figure 11 in O'Higgins, 2003).

As a rule, and similar to Western countries, the incidence of unemployment in CEE, tends to decline with age. In CEE, it reaches the lowest levels for the pre-retirement age population. This is related to persisting seniority rules and insiders' power, especially in large enterprises, and the frequent willingness of older workers to accept worse jobs. It is also partly related to early retirement, pre-retirement arrangements or disability pensions often offered to older workers who are either threatened by redundancy or already jobless (Nesporova, 2002, p. 5).

The regional dimension can importantly affect the youth to adult unemployment rate in CEECs. For Poland, Newell and Pastore (1999) estimated Cox models of the probability of job loss separately for the highest and the lowest unemployment regions. In unpacking the effects of sample characteristics, baseline hazards and estimated coefficients, they found one set of coefficients, with respect to age, are primarily responsible for the difference in inflows between the highest and lowest unemployment regions. They allowed a spline in age with slope changes at ages 25, 35 and 45 and the difference between the low and high *voivodships* was that middle-aged workers in high unemployment regions have almost no greater job security than young workers. This is in clear contrast to the situation in the low

unemployment regions where young workers are much more likely to enter unemployment than their older colleagues are. Thus, in those regions the risk of unemployment does not diminish with age, as is normally the case (See Arulampalam and Stewart 1995). To illustrate this, the estimates suggest that in low unemployment regions a 20 year-old worker is six times more likely to enter unemployment than a 30 year-old. For high unemployment regions, the 20 year-old is estimated to be only 1.6 times more likely than the 30 year-old to enter unemployment.

The important factor in studying youth unemployment rate is duration of unemployment that it obviously not random across young people. Some types of young person are more likely to be unemployed than others (some classical examples are ethnic minorities, disabled individuals, unskilled workers, etc). The probability of being unemployed in a given time depends not only on the probability of becoming unemployed in this period but also on the likelihood of remaining in that state once there. O'Higgins (2003) reports that in Poland more than 50 percent of young people remained unemployed for more than 6 months once entering the unemployment, while the corresponding figure is almost 70 percent for population aged 25-54. In Slovenia, the 66 percent of unemployed individuals registered at Unemployment Office, are without a formal job for more than 6 months. (Statistical Yearbook of the Republic of Slovenia, 2002)

Our analysis aims to contribute to this important issue of identifying subgroups of young people with high probability to remain unemployed on a long run. Targeting ALMP on these specific groups would enhance the effectiveness of such policies especially important for transition countries that face big problems in financing budget deficits.

## 5. Econometric methodology

Following McFadden (1974), a random utility model motivates the analysis of the labour market decisions of young people. It is assumed that young people chose the labour market status that brings with it the highest utility. Assume  $i = 1, 2, \dots, n$  individuals facing  $J$  choices, such as being in education, inactive, employed, unemployed and so on. For every individual, each status has attached to it a utility function of the type:

$$U_{i,j} = \hat{\mathbf{a}}' \mathbf{z}_{i,j} + \hat{\mathbf{a}}_{i,j}$$

The worker chooses the status  $j$  with a given probability, when the utility of this status is the maximum among the utilities of the available statuses. The probability that the individual  $i$  prefers the status  $j$  to the status  $k$  is due to the probability that for him the utility associated to the former is greater than the probability associated with the latter status:

$\Pr(U_{i,j} > U_{i,k})$  for all other  $k \neq j$ .

McFadden (1973) showed that this model can be estimated if the disturbances are independent and identically distributed with Weibull distribution. This general model with a categorical dependent variable having more than two statuses can be estimated in various ways according to the relationship existing between the statuses themselves.

In the multinomial LOGIT model, the considered outcomes should have neither particular ordering nor sequence. In the former case, one should use, for instance, the ordered PROBIT model. In the latter case, one could use the conditional LOGIT or the sequential response model if, for instance, the labour market choices of individuals occupying subsequent stages of the educational track are significantly different (Maddala, 1983). As for the ordering of the statuses included in the outcome variable of this study, as described in the following section, it is apparent that the data do not naturally suggest any inherent ranking of the options considered, as, for instance, involvement in education or training cannot be considered any worse than employment, especially in the case of young people. This suggests excluding the ordered PROBIT. The hypothesis that the choices are conditioned or sequential cannot be excluded, though. Before dealing with the choice of the model, consider some important features of the Multinomial LOGIT model.

This model simultaneously estimates the probability

Moreover, the so-called property of Independence of Irrelevant Alternatives (IIA) should apply in the case of a Multinomial logit model. The IIA property implies that the probability of one status to be chosen over another status is independent of the availability or attributes of alternatives other than the two under scrutiny. In other words, the probability of choosing any status of the outcome variable should be independent of the probability of choosing any other status (McFadden, 1984). However, as already noted in the seminal paper by Clark and Summers (1982), it is typical of young people, especially when unemployed, to be involved in various activities at the same time. In our sample, this also holds true, as the interviewees could declare they were occupying two or more statuses at the same time. For instance, they could be registered as unemployed in the national employment office, but be in education and have occasional jobs. Also workers involved in ALMP could be in need of finding paid, formal or informal, employment. How was this problem tackled in the analysis? Following the ILO definitions, it was assumed that declaring some type of employment overrules any other labour market status. Then, it sequentially comes unemployment. The remainder of the sample was considered out of the workforce, either in education or inactive.

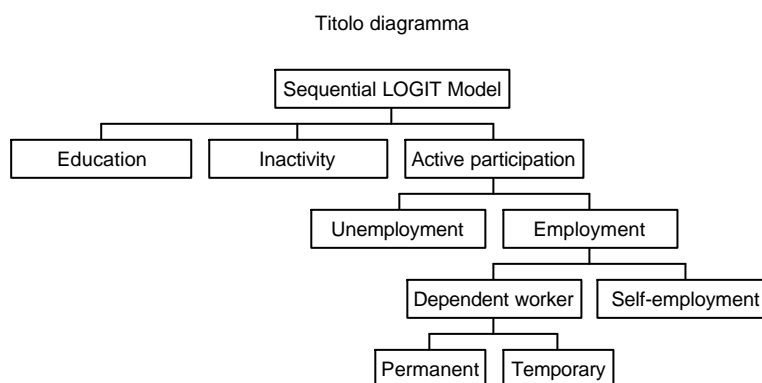
In addition, McFadden (1984, p. 1414) claims the IIA property “is theoretically implausible in many applications. Nevertheless, empirical experience is that the multinomial LOGIT model is relatively robust, as measured by goodness of fit or prediction accuracy, in many cases where the IIA property is theoretically implausible”.

However, the hypothesis of independence of irrelevant alternatives, typical of the MNL, is particularly unsatisfactory in the case of young people (see among others Maddala, 1983, Ch. 1; Scott Long, 1997, Ch. 6). In fact,

above all the choice to seek (and find) a job is substantially dependent on the educational attainment of the individual in two ways. Firstly, only at the end of (high) secondary school young people face the choice between further education and employment. Having completed secondary education is often a determinant condition to access employment. Secondly, the higher is the level of education attained, the better is the job found. Besides, as already noted, participation into education and the postponement of labour market entry is not a dismal alternative for young people, just the opposite. The other side of the coin is when family financial support is missing many young people have to work on a temporary basis to support their studies. Many examples could be used to prove the labour market decisions of young people are substantially interdependent. The choice between employment and unemployment and between different types of employment can be considered consecutive, with respect to the choice between education, active participation and inactivity.

In a nutshell, young people are in a stage of their life when they need to increase their potential, via investment in education and work experience to find their best match (Clark and Summers, 1982). This would suggest using a nested or sequential LOGIT model (SLM). Although very important to study labour market participation, the SLM has been used only rarely. Various tests, including the Hausman and McFadden (1984) test, will be carried out to contrast the MNLM *versus* the SLM as the best model to analyse the choices of young people in the countries considered. Figure 1 describes one possible sequence of choices young people face. Of course, the figure is to be taken only as a general framework, but it makes explicit the point that the alternatives offered to young people could be not irrelevant. In other words, In fact, they influence the overall outcome. Moreover, there is ground to believe that such alternatives follow a sequence. Understanding the right sequence of choices young people face could help explaining the final outcome.

**Figure 1. The sequence of labour market participation and occupational choice for young people**



Notice in the figure we assume three general choices are given to a young person: education, inactivity and active participation. Training is considered as complementary to education (Brunello, 2001). It could also be considered as a



specific outcome or as a step following unemployment. The alternative modelling strategy, to be tested using a MNLM, would be to consider all the choices to be made in the meantime.

Comparing the MNLM and the SLM is a very fruitful modelling strategy, as it will allow us to test some important hypotheses. Some examples will clarify this point. The model will let us study the determinants of informal sector activity, one of the most dramatic issues linked to youth unemployment in the entire CEE region. For a young person, informal activities can represent a trap. According to Brunello (2001), training is largely complementary to education. This hypothesis can be tested directly from a micro-economic point of view within our framework. In turn, studying these issues opens the way to analyse other very important issues. Finding evidence of complementarity between education and training, for instance, can be interpreted in two ways. Firstly, training is necessary to young people with formal education to overcome the lack of work experience and ease school-to-work transitions. Secondly, training could be fine targeted to the needs of young unemployed.

This modelling strategy will allow also studying other issues, such as the determinants of participation in the informal sector and the determinants of various occupational choices.

The determinants of wage differentials by age in the countries considered will be carried out applying the standard methodology of mincerian earning equations.

#### **4. Description of Data and Variables**

The data used in the analysis originate from Labour Force Surveys conducted in Slovenia and Poland. These surveys are representative of the underlying population and follow similar ILO definitions to detect labour market status. The data is elicited quarterly on a sample of over 18,000 and 50,000 individuals respectively.

The estimates are based on the years 1997, when the labour force survey was started in Slovenia, and 2002, the latest available survey. In order to reach a critical mass of observations, in the case of Slovenia, the data relative to the last three surveys carried out in 1997 and that relative to the first one carried out in 1998 are pooled together and so do the data relative to the four surveys in 2002. In the case of Poland, the estimates are based on one survey per year only. These years are interesting as the earliest year spots transitional labour markets in the mid of the decade, when transition was still under discussion, while the latest year mirrors the period after the Russian financial crisis, which marked the beginning of a mature phase of economic transition.

This part of the research on the labour market participation of young people follows the assumption that the labour market statuses considered are mutually exclusive. According to the answer to similar questions in the two surveys, the

respondents have been grouped into one of six homogeneous statuses forming our outcome variable,  $Y_i$ , with the individual  $i = 0, 1, \dots, n$ :

- *Education*, including those in compulsory school, vocational school, apprenticeship, academic or University education ( $Y = 0$ )
- *Inactivity*, including those in domestic unpaid work, in maternity, undergoing military service or involved in other activities ( $Y = 1$ ).
- *Unemployment*, including those who are jobless, but actively seeking a job ( $Y = 2$ );
- *Permanent Employment*, including those with a permanent contract of paid work ( $Y = 3$ );
- *Temporary Employment*, including those with a temporary contract ( $Y = 4$ );
- *Self-employment* ( $Y = 5$ );

Tables 1-3 provide basic descriptive statistics for individuals included in Slovene Labour Force study in 2002 (summary statistics for 1997 sample are presented in appendix – tables 1.A-3.A). In the four surveys carried out in Slovenia in 2002, 66.143 individuals were interviewed, of which 52.2 percent were women. In the whole sample almost 56 percent of individuals were participating in the labour market, while almost 14 percent were in education. 1.3 percent of sampled population were self-employed, 8.3 percent were unemployed, while the rest were employed on a permanent (40.6) or temporary (4.8) basis. Women had a higher non-participation rate than men, while less women were permanently employed or self-employed. About 0.4 percent of the sample consists of individuals with foreign citizenship.

Table 2, where the respondents are grouped by labour market status and age, reveals that the young adults (20-24) are the age group exhibiting the highest unemployment to population ratio, being almost twice as big as the total sample average. This is essentially due to the typically very high inactivity rate of young teenagers (15-19), which is over 90% in the Slovenian case, as a consequence of the high level of education attainment. The unemployment rate of young teenagers is at about 61.1 percent, more than two times bigger than for young adults (20-24) and about 4 times higher than for the average sample. This group is the most likely to enter long-term unemployment. The unemployment rate of young adults is half that of young teenagers, though numerically conspicuous. The unemployment rate declines gently by age up to the over 55, when it increases again to 22.7%, perhaps a heritage of the structural change caused by economic transition during the 1990s. The data relative to 1997 (see the tables A1-A3 in the Appendix) show a similar picture, though the unemployment rate was lower at that time.

About 10 percent of those who are employed are employed on a temporary basis, which is quite a high level compared also to the EU average of 13.7 in 1998. Comparing labour market statuses by level of education attained we see that the highest non-participation rate is in the case of individuals without any education (without or incomplete compulsory education) or, slightly so, with compulsory education only. Similarly, the unemployment rate is the highest

for those two groups and it is falling when moving to groups of individuals with higher education<sup>3</sup>. Workers with a Bachelor or a University degree have a much lower than average unemployment rate, suggesting that education is an important variable to predict the probability to be active or employed in the labour market.

As shown in Table 4, in Poland, 47633 individuals were interviewed, of which 52.7 percent were women. In the whole sample almost 54 percent of individuals were participating in the labour market, while only 7 percent were in education, a share much lower than in Slovenia. A large share (10.5%) of the sampled population were self-employed (10.5%) and unemployed (11.8%), while the employment rate was very low (31.8%), of which 27.7 percent on a permanent and 4.1 percent on a temporary basis. Women had a much higher non-participation rate than men, while less women were permanently employed or self-employed.

Table 5 reveals that the young adults (20-24) were the age group with the highest unemployment to population ratio in 2002, almost twice as big as the total sample average. The unemployment rate of young teenagers was 39.2 percent, about two times that of the overall sample, but, different from Slovenia, about 10 percent lower than for young adults (20-24). Again differently from Slovenia, the unemployment rate declines only for those aged 25-34, while it increases dramatically for those aged 35-54, to decline again for the over 55. This peculiar shape of the unemployment rate is probably due to the restructuring process that the Polish economy underwent in the late 1990s, when the veto power of unions on the decision to close down state-owned and commercialised enterprises was abolished.

The tables A4-A6 in the Appendix show a different picture for 1997. Before the recent surge in unemployment, the young teenagers had double the unemployment rate of young adults and more than three times the average unemployment rate. Moreover, in 1997, the distribution of the unemployment rate by age is similar to that of Slovenia, as it decreases constantly, to increase again for the over 55.

About 9.6 percent of workers are employed on a temporary basis, a share similar to Slovenia. In 1997, the same figure was only 4.3 percent, which is suggestive of a lower degree of flexibility of the Polish labour market. Comparing labour market statuses by level of education attained, Table 6 shows that the highest non-participation rate is in the case of individuals with compulsory education. Similarly, the unemployment rate is inversely related to the level of education attainment.

Overall, in Slovenia, the unemployment rate is lower than in Poland, though there are only little differences in the youth unemployment rate, which is suggestive of the greater labour market rigidity typical of the former country. This impression of rigidity is confirmed in recent studies of labour demand in Slovenia. Domadenik et al. (1002) estimated

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<sup>3</sup> Interestingly, the only exemption is the group with four years bachelor degree where the unemployment is higher than in the group with three years bachelor degree. Possible reason lies in the fact that the former was introduced in the education system recently (the first graduates entered labour market in year 2000) and hence the group consists mostly of first-time job seekers.

labour demand elasticity with respect to wages and output using firm level data relative to the years 1997-'98 and found that it is extremely low, much lower than that estimated in similar studies relative to Hungary and the Czech Republic. The issue whether greater labour market rigidity will be better to deal with unemployment also in the long run is one, which deserves careful consideration.

**Tab. 1- Sample population by gender, citizenship and labour market status (Slovenia - 2002)**

	Men		Women		Citizenship		
					Foreign		
	N	%	N	%	N	%	N
<b>Education</b>	4401	13.91	4719	13.68	20	7.69	9100
<b>Non-participation</b>	8144	25.74	12506	36.25	82	31.54	20568
<b>Unemployed</b>	2746	8.68	2739	7.94	52	20.00	5433
<b>Permanent employment</b>	14177	44.81	12677	36.74	77	29.62	26777
<b>Temporary employment</b>	1524	4.82	1639	4.75	28	10.77	3135
<b>Self-employed</b>	648	2.05	223	0.65	1	0.38	870
<b>TOTAL</b>	31640	100	34503	100	260	100	65883

Source: own elaboration of LFS data

**Tab. 2: Sample population by age and labour market status (Slovenia-2002)**

	15-19		20-24		25-34		35-54		>55
	N	%	N	%	N	%	N	%	N
<b>Education</b>	4947	90.52	3510	48.15	654	6.36	8	0.03	1
<b>Non-participation</b>	35	0.64	76	1.04	265	2.58	2682	11.44	17590
<b>Unemployed</b>	295	5.40	1097	15.05	1171	11.38	2456	10.47	466
<b>Permanent employment</b>	84	1.54	1603	21.99	6758	65.67	17033	72.64	1375
<b>Temporary employment</b>	104	1.90	993	13.62	1314	12.77	729	3.11	23
<b>Self-employed</b>	0	0.00	10	0.14	129	1.25	539	2.30	193
<b>TOTAL</b>	5465	100.00	7289	100.00	10291	100.00	23447	100.00	19648

Source: own elaboration of LFS data

**Tab. 3: Sample population by education and labour market status (Slovenia-2002)**

	Without Compulsory Education		Incomplete Compulsory Education (4-7 Classes)		Compulsory Education		Professional Secondary Education		Second
	N	%	N	%	N	%	N	%	N
<b>Education</b>	10	2.32	106	3.64	4043	23.09	503	3.05	430
<b>Non-participation</b>	372	86.31	2188	75.11	7258	41.45	4977	30.20	415
<b>Unemployed</b>	21	4.87	253	8.69	1531	8.74	1865	11.32	151
<b>Permanent employment</b>	27	6.26	291	9.99	3861	22.05	7850	47.63	924
<b>Temporary employment</b>	1	0.23	22	0.76	412	2.35	1060	6.43	113
<b>Self-employed</b>	0	0.00	53	1.82	406	2.32	227	1.38	103
<b>TOTAL</b>	431	100	2913	100	17511	100	16482	100	2045

	Bachelor degree (4 years)		Laurea		Post-graduate	
	N	%	N	%	N	%
<b>Education</b>	31	2.84	85	2.44	2	0.45
<b>Non-participation</b>	196	17.93	536	15.37	54	12.03
<b>Unemployed</b>	57	5.22	137	3.93	9	2.00
<b>Permanent employment</b>	696	63.68	2401	68.86	343	76.39
<b>Temporary employment</b>	105	9.61	276	7.92	33	7.35
<b>Self-employed</b>	8	0.73	52	1.49	8	1.78
<b>TOTAL</b>	1093	100	3487	100	449	100

*Source: own elaboration of LFS data*

Tab. 4- Sample population by gender and labor market status (Poland - 2002)

	<i>Men</i>		<i>Women</i>		<b>TOTAL</b>	
	N	%	N	%	N	%
<b>Education</b>	1358	6.03	1987	7.92	3345	7.02
<b>Non-participation</b>	7464	33.12	11089	44.18	18553	38.95
<b>Unemployed</b>	2875	12.76	2728	10.87	5603	11.76
<b>Permanent employment</b>	6684	29.66	6516	25.96	13200	27.71
<b>Temporary employment</b>	1077	4.78	851	3.39	1928	4.05
<b>Self-employed</b>	3075	13.65	1929	7.69	5004	10.51
<b>TOTAL</b>	22533	100.00	25100	100.00	47633	100

*Source: own elaboration of LFS data*

Tab. 5: Sample population by age and labor market status (Poland-2002)

	<b>15-19</b>		<b>20-24</b>		<b>25-34</b>		<b>35-54</b>		<b>&gt;55</b>	
	N	%	N	%	N	%	N	%	N	%
<b>Education</b>	59	1.26	1099	23.40	239	3.28	593	3.52	1355	9.62
<b>Non-participation</b>	4221	89.94	704	14.99	700	9.60	2628	15.58	10296	73.10
<b>Unemployed</b>	162	3.45	1386	29.51	1477	20.26	2357	13.98	221	1.57
<b>Permanent employment</b>	145	3.09	878	18.70	3389	46.49	7610	45.12	1178	8.36
<b>Temporary employment</b>	98	2.09	473	10.07	585	8.02	667	3.95	105	0.75
<b>Self-employed</b>	8	0.17	156	3.32	900	12.35	3010	17.85	930	6.60
<b>TOTAL</b>	4693	100.00	4696	100.00	7290	100.00	16865	100.00	14085	100.00

Tab. 6: Sample population by education and labor market status (Poland-2002)

	<b>Compulsory Education</b>		<b>Professional Secondary Education</b>		<b>Secondary education</b>		<b>Laurea)</b>	
	N	%	N	%	N	%	N	%
<b>Education</b>	0	0.00	802	20.82	2543	28.46	0	0.00
<b>Non-participation</b>	16360	55.04	1086	28.19	0	0.00	1107	21.60
<b>Unemployed</b>	3539	11.91	500	12.98	1192	13.34	372	7.26
<b>Permanent employment</b>	5693	19.15	1016	26.38	3632	40.65	2859	55.80
<b>Temporary employment</b>	1003	3.37	177	4.60	446	4.99	302	5.89
<b>Self-employed</b>	3128	10.52	271	7.04	1121	12.55	484	9.45
<b>TOTAL</b>	29723	100	3852	100	8934	100	5124	100



## 6. The results

The Tables 7 and 8 provide estimates of Multinomial LOGIT model relative to the entire sample and to young people (15-24) respectively. The figures represent the exponential of the estimated coefficient ( $e^b$ ) and as such they measure the relative risk ratio for a unit change in the corresponding variable of the category considered relative to the base category. Note that unemployment is the base category used to solve the indeterminacy problem typical of this type of model. It represents therefore the reference term of every coefficient.

Table 7 shows that women have a relative risk of being inactive or employed rather than unemployed lower than men in both countries. There are little differences across the two years considered. In Slovenia, the probability to be in education or inactive rather than in unemployment increases remarkably over time, though remaining lower than for men. In Poland, the most important increase is not only for education, but also for temporary employment, which was already noted looking at the unconditional means.

For young women the differences with respect to men tend to abate in Slovenia, as expected based on the previous descriptive analysis. In this country, young women tend to have a pattern of labour market participation very similar to men, except in 2002, when they experience a dramatic reduction of their relative risk to be in permanent or temporary employment. In Poland, gender differences in participation rates tend to be instead significant and conspicuous. Young women have a lower relative risk to be unemployed than young men. However, from 1997 to 2002, significant differences can be observed. There is a general tendency to reduce the gap with respect to men in the relative risk to be in education, in temporary employment and self-employment. This suggests that young women tend to be more active in recent years, though, they still experience different job opportunities than men, who are favoured in permanent jobs.

In the case of Slovenia, but not of Poland, the data provide information on the nationality of the respondent. The estimates suggest that there is some form of discrimination against non-Slovenians. In fact, Slovenians have a lower probability to be non-participating to the labour market and a much higher probability to be in permanent employment (by 3 times in 2002) or in self-employment (by almost 9 times in 2002). However, such national differences tend to abate for young people.

The following set of variables includes age, with prime-aged workers (35-54) being the reference group. In Slovenia, young teenagers have a very high probability to be in education, inactive or in temporary employment and a very low probability to be in permanent employment rather than being unemployed. In the case of young adults, the probability to be in education or inactive is lower than that of the young teenagers, whereas the probability to be in permanent or temporary employment is much higher. There is little chance that a young person is self-employed, though. This is very much what one would expect. Overall, most part of young people are able to cope with the labour

market in a quite satisfactory way. However, a small, but important part of them are involved in unemployment, being at risk of constituting the bulk of long-term unemployment in the country. Also there is some evidence that self-employment could be in Slovenia one key to bring some of the youngest segment of the population out of unemployment, which is also what the European Employment Strategy suggests.

Also there is some evidence in Slovenia that the segment of the population aged 25-34 is at least in part faring better than prime-aged workers. Despite the higher risk to be inactive, rather than unemployed, the former age group tends to have a higher probability to be in permanent employment (by more than 3 times) as well as being self-employed (by 22 times). However, they also have a high probability to be employed temporarily. In fact, temporary employment seems to represent for many workers aged below 35 the only chance to be employed<sup>4</sup>.

What is partly surprising is the high share of over 55 who are unemployed. This segment of the population tends to have lower probability to be active and employed than the reference group of prime-aged workers. This is quite atypical in other countries and is evidence of the cost of restructuring for many workers who have been involved either in pre-retirement schemes or other ways of dismissal. This finding is in line with the finding typical of the literature on returns to education that the payoff of work experience has been decreasing dramatically over transition.

Overall, the coefficients of the age variables suggest some interesting findings, which deserve further analysis. The young cohorts of the Slovenian population tend on average to fare better than the old cohorts. Nonetheless, there is evidence that for many young people temporary employment and unemployment are a high risk, which is confirmed also by the high youth to adult unemployment ratio. An age effect is also detected on the unemployment rate for the oldest group. In a way, this is not good news for the coming years, since it suggests that unemployment will stay high until the over 55 become inactive. The dualism of unemployment between young and old workers is not typical of every country but only of those countries where an important process of restructuring has taken place. In the case of Slovenia, the unemployment rate is still quite low and this is most probably due to the protective attitude of firms towards their workers. More trouble could come if there was a less protective attitude by the government and firms. However, the issue can be raised of the sustainability of this attitude in the long run and in view of the increasing competition which will arise after EU accession.

In the case of Poland, the picture is slightly different. Young teenagers tend to have a very low probability to be in any kind of employment. Young adults fare only slightly better. They have a greater probability than young teenagers to be employed, but still they tend to be mainly in temporary employment. They also have a significantly low probability to be self-employed compared to prime-aged workers. Also in the case of Poland overcoming the threshold of 25 is of

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<sup>4</sup> It will be the aim of further analysis assessing the probability for a worker employed temporarily to find a permanent job one year later. This analysis will be conducted using the longitudinal features of the LFS data.

advantage, as employment opportunities dramatically increase, though they are still lower than those of prime-aged workers, except for temporary employment. In other words, the 25-34 age group tend to be half times more likely to find permanent work and between 2 and 3 times more likely to be in temporary employment compared to the prime-aged workers. There are little differences in the probability of starting an own business.

The civil status is a constant over the years and across the countries considered. The divorced tend to have a significantly lower probability than the others to be employed or self-employed both in Slovenia and in Poland.

The last group of variables included in the estimates refer to human capital accumulation. The reference group is workers with a university degree. Workers with compulsory education only tend to have a very high probability to be unemployed, compared to the baseline. As a consequence, they have a very low probability to be in any kind of employment both in Slovenia and Poland, with imperceptible differences over time. Also in the transition countries considered, low education attainment tends to be conducive to poverty. The situation only slightly improves in the case of workers with secondary school attainment, with little differences between the professional and the general secondary education. Overall, the relative risk of being employed rather than being unemployed is low only for workers with a university degree.

Finally, participation into training dramatically reduces the risk of being unemployed increasing all the other risks.

**Table 7. Multinomial LOGIT estimates for labour market participation (full sample) (to be continued)**

Dependent variable	Education (Y=0)				Inactivity (Y=2)				Permanent Employment (Y=3)			
	Slovenia -97	Slovenia -02	Poland -97	Poland -02	Slovenia -97	Slovenia -02	Poland -97	Poland -02	Slovenia -97	Slovenia -02	Poland -97	Poland -02
Independent variables <sup>(1)</sup>												
Women	0.40*** (0.08)	0.68** (0.10)	0.59*** (0.03)	0.69*** (0.03)	0.40*** (0.02)	0.47*** (0.02)	0.65*** (0.02)	0.59*** (0.02)	0.34*** (0.01)	0.34*** (0.01)	0.36*** (0.01)	0.47*** (0.01)
Citizenship	7189875 (.)	0.56 (0.54) -			0.44*** (0.12)	0.93 (0.22)			2.19*** (0.62)	3.05*** (0.72)		
Age: 15-19	815*** (651.95)	520.78*** (259.03)	1.50** (0.29)	0.83 (0.20)	7.64*** (2.01)	6.44*** (1.31)	0.12*** (0.01)	0.04*** (0.00)	0.77 (0.21)	0.44*** (0.09)	0.03*** (0.00)	0.03*** (0.00)
Age: 20-24	169*** (128.51)	191.52*** (90.98)	6.23*** (0.58)	5.02*** (0.50)	8.46*** (1.51)	10.04*** (1.40)	2.52*** (0.20)	1.90*** (0.13)	3.76*** (0.63)	2.90*** (0.38)	1.18*** (0.07)	0.54*** (0.03)
Age: 25-34	32.57*** (24.19)	23.55*** (10.83)	1.41*** (0.12)	1.29*** (0.12)	3.45*** (0.37)	3.62*** (0.28)	1.68*** (0.10)	2.15*** (0.12)	3.26*** (0.31)	3.28*** (0.23)	1.29*** (0.05)	1.56*** (0.07)
Age: 55-100	0.34 (0.29)	0.03*** (0.03)	0.79*** (0.05)	0.74*** (0.04)	0.03*** (0.00)	0.03*** (0.00)	0.03*** (0.00)	0.03*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.03*** (0.00)	0.04*** (0.00)
Single	3.98*** (1.70)	8.03*** (3.01)	1.46*** (0.11)	1.23** (0.10)	1.27** (0.13)	1.25*** (0.08)	1.28*** (0.08)	1.22*** (0.07)	0.73*** (0.06)	0.71*** (0.04)	0.77*** (0.04)	0.70*** (0.03)
Divorced	1.10 (1.11)	2.01 (2.23)	0.80*** (0.06)	0.77*** (0.06)	0.84 (0.10)	0.87* (0.06)	1.06 (0.08)	0.92 (0.06)	0.54*** (0.05)	0.51*** (0.02)	0.68*** (0.03)	0.56*** (0.02)
Compulsory education	0.23** (0.14)	0.03*** (0.03)		0.00*** (0.00)	0.60*** (0.11)	0.47* (0.18)	0.92 (0.09)	0.94 (0.06)	0.11*** (0.01)	0.03*** (0.00)	0.16*** (0.00)	0.51*** (0.02)
Professional Secondary School	0.07*** (0.05)	0.04*** (0.04)			0.98 (0.18)	0.62 (0.25)	1.03 (0.12)		0.28*** (0.03)	0.08*** (0.01)	0.28*** (0.01)	
General Secondary School	0.77 (0.48)	0.31 (0.32)		1.39E+10*** (1.43E+09)	1.10 (0.20)	1.07 (0.44)	2.88E+09 (.)	1.00E+10*** (1.08 <sup>E</sup> +09)	0.39*** (0.05)	0.11*** (0.02)	8.41E+08 (.)	1.01E+10*** (1.00 <sup>E</sup> +09)
Bachelor degree	0.52 (0.48)	0.20 (0.20) -		0.00*** (0.00)	0.74 (0.17)	0.52 (0.21)		1.11 (0.10)	0.59*** (0.09)	0.19*** (0.03)		2.84*** (0.19)
Post graduate degree	0.00*** (0.00)	0.33 (0.33) -			0.21 (0.22)	0.96 (0.39)			1.46 (0.42)	0.34*** (0.07)		
Participation in Training Program	31.12*** (21.82)	75.46*** (20.98)	1.15 (0.61)	0.00*** (0.00)	21.14*** (11.31)	4.98*** (1.13)	15.02*** (5.33)	0.00 (.)	27.59*** (14.38)	8.39*** (1.76)	10.67*** (3.78)	9.18E+10*** (4.23E+10)
Number of observations for Y <sub>i</sub> and country	2140	5018	3450	3345	750	1431	3417	5603	120	30	18246	13200
Number of observations for Y <sub>i</sub>	21405	55382	53259	47633								
Count-R <sup>2</sup> (2)												
Count-R <sup>2</sup> for every Y <sub>i</sub>												
Log likelihood	-17248.964	-39722.695	-51416.54	-49864.82								
McFadden pseudo-R <sup>2</sup>	0,3585	0,3917	0,324	0,314								

(1) The figures represent the exponential of the coefficient. (2) The Count-R2 is obtained as the ratio or percentage of correct predictions over the total number of observations

Source: own elaboration

**Table 7. Multinomial LOGIT estimates for labour market participation (full sample) (continued)**

Dependent variable	Temporary Employment (Y=4)				Self-employment (Y=5)			
Independent variables	Slovenia -97	Slovenia -02	Poland -97	Poland -02	Slovenia -97	Slovenia -02	Poland -97	Poland -02
Women	0.47*** (0.04)	0.50*** (0.02)	0.33*** (0.02)	0.44*** (0.02)	0.17*** (0.01)	0.14*** (0.01)	0.32*** (0.01)	0.36*** (0.01)
Citizenship	0.58 (0.22)	0.83 (0.26)			2.86* (1.81)	8.91** (9.14)		
Age: 15-19	21.31*** (5.99)	9.39*** (2.10)	0.13*** (0.01)	0.13*** (0.01)	0.00 (.)	0.00 (.)	0.01*** (0.00)	0.00*** (0.00)
Age: 20-24	29.58*** (5.73)	32.60*** (4.72)	2.62*** (0.30)	2.60*** (0.24)	0.77 (0.26)	0.57 (0.21)	0.56*** (0.04)	0.25*** (0.02)
Age: 25-34	8.71*** (1.13)	12.03*** (1.04)	1.75*** (0.16)	2.90*** (0.21)	2.18*** (0.31)	2.16*** (0.29)	1.00 (0.05)	1.12* (0.06)
Age: 55-100	0.00*** (0.00)	0.00*** (0.00)	0.10*** (0.01)	0.04*** (0.00)	0.05*** (0.00)	0.04*** (0.00)	0.11*** (0.00)	0.09*** (0.00)
Single	1.35** (0.16)	1.12 (0.08)	1.26** (0.12)	0.99 (0.07)	0.85 (0.12)	0.85 (0.10)	0.62*** (0.04)	0.62*** (0.04)
Divorced	0.89 (0.21)	0.73** (0.10)	1.09 (0.13)	0.69** (0.08)	0.63** (0.11)	0.40*** (0.08)	0.57*** (0.03)	0.39*** (0.02)
Compulsory education	0.09*** (0.01)	0.04*** (0.01)	0.41*** (0.04)	0.67*** (0.06)	0.30*** (0.05)	0.22*** (0.08)	0.63*** (0.03)	0.86** (0.06)
Professional Secondary School	0.24*** (0.04)	0.11*** (0.04)	0.48*** (0.08)		0.20*** (0.03)	0.12*** (0.04)	0.53*** (0.04)	
General Secondary School	0.24*** (0.04)	0.15*** (0.05)	1.26E+09 (.)	1.03E+10 (.)	0.30*** (0.05)	0.11*** (0.05)	1.63E+09 (.)	9.75E+09*** (1.13E+09)
Bachelor degree	0.56** (0.12)	0.25*** (0.08)		2.48*** (0.27)	0.50*** (0.10)	0.11*** (0.04)		1.57*** (0.14)
Post graduate degree	1.39 (0.68)	0.53* (0.19)			0.23** (0.17)	0.52 (0.21)		
Participation in Training Program	28.26*** (15.38)	7.11*** (1.67)	14.85*** (6.06)	1.41E+11*** (6.79E+10)	15.19*** (9.07)	8.21*** (2.51)	2.48** (1.05)	9.93E+09 (.)
Number of observations for $Y_i$	415	1474	1118	1928	71	64	6651	5004
Count- $R^2$ for every $Y_i$								

Source: own elaboration

**Table 8. Multinomial LOGIT estimates for labour market participation (Aged 15-24) (to be continued)**

Dependent variable	Education (Y=0)				Inactivity (Y=2)				Permanent Employment (Y=3)			
Independent variables	Slovenia -97	Slovenia -02	Poland -97	Poland -02	Slovenia -97	Slovenia -02	Poland -97	Poland -02	Slovenia -97	Slovenia -02	Poland -97	Poland -02
Women	0.70 (0.23)	0.97 (0.26)	0.34*** (0.03)	0.61*** (0.06)	1.00 (0.21)	0.70 (0.16)	0.61*** (0.04)	0.64*** (0.05)	0.68 (0.18)	0.36*** (0.08)	0.40*** (0.03)	0.46*** (0.04)
Citizenship	8.85E+06 (.)	0.65 (0.78)			2.19 (2.50)	1.53 (1.02)			4.34 (4.76)	3.89 (6.98)		
Age: 20-24	0.17*** (0.05)	0.27*** (0.08)	11.67*** (1.90)	15.54*** (2.93)	0.90 (0.27)	1.18 (0.31)	20.22*** (1.99)	33.50*** (3.32)	4.40*** (1.40)	5.57*** (1.59)	39.17*** (3.47)	19.96*** (2.15)
Single	1.70 (1.00)	9.47** (8.27)	2.84*** (0.489)	1.99*** (0.40)	0.90 (0.34)	1.22 (0.46)	1.74*** (0.22)	1.19 (0.16)	0.58 (0.21)	0.91 (0.35)	1.32** (0.14)	0.63*** (0.09)
Divorced	0.00*** (0.00)	0.00*** (0.00)	1.03 (1.16)	0.21 (0.26)	1.08E+09*** (1.06E+09)	8.45E+08*** (1.07E+09)	0.76 (0.55)	0.53 (0.31)	4.23E+08*** (4.61E+08)	2.46E+08 (.)	0.82 (0.48)	0.28* (0.20)
Compulsory education	0.00*** (0.00)	0.49 (0.56)	0.00 (.)	0.00 (.)	0.00*** (0.00)	0.88 (0.72)	0.20*** (0.04)	0.58*** (0.11)	0.00*** (0.00)	0.38 (0.30)	0.19*** (0.04)	0.35*** (0.07)
Professional Secondary School	0.00*** (0.00)	3.21 (3.57)		2.39E+09 (.)	0.00*** (0.00)	7.14** (5.79)		2.40*** (0.54)	0.00*** (0.00)	6.98** (5.45)		1.40 (0.33)
General Secondary School	0.00*** (0.00)	5.24 (2.77E+08)	1.08E+09*** (.)	3.28E+17 (.)	0.00*** (0.00)	3.26 (2.92)	4.80E+09*** (1.33E+09)	1.12E+09 (.)	0.00*** (0.00)	1.37 (1.20)	5.83E+09*** (1.54E+09)	8.83E+08 (.)
Bachelor degree	124.77 (.)	3.64E+09 (.)	0.00 (.)		142.56*** (219.86)	2.29E+09*** (2.36E+09)	0.43*** (0.13)		116.14*** (172.26)	1.09E+09*** (1.13E+09)	0.73 (0.20)	
Participation in Training Program	1.54E+09 (.)	8.43*** (4.25)	1.64 (1.14)	0.00 (.)	2.39E+09*** (1.54E+09)	0.61 (0.31)	13.24*** (6.63)	0.00 (.)	2.22E+09*** (1.43E+09)	0.66 (0.34)	10.54*** (5.48)	1.45E+10 (.)
Number of observations for $Y_i$ and country	103	205	1161	1158	604	1186	1082	1548	877	1433	2303	1023
Number of observations for $Y_i$	2128	3868	10880	9393								
Count-R <sup>2</sup> (1)												
Count-R <sup>2</sup> for every $Y_i$												
Log likelihood	-2618.4464	-4700.146	-9245.0454	-8204.53								
McFadden pseudo-R <sup>2</sup>	0,3585	0,091	0,3719	0,365								

(1) The Count-R2 is obtained as the ratio or percentage of correct predictions over the total number of observations

Source: own elaboration

**Table 8. Multinomial LOGIT estimates for labour market participation (Aged 15-24) (continued)**

Dependent variable	Temporary Employment (Y=4)				Self-employment (Y=5)			
Independent variables	Slovenia -97	Slovenia -02	Poland -97	Poland -02	Slovenia -97	Slovenia -02	Poland -97	Poland -02
Women	0.97 (0.27)	0.62** (0.14)	0.38*** (0.04)	0.57*** (0.06)	0.32 (0.22)	0.42 (0.26)	0.21*** (0.02)	0.36*** (0.06)
Citizenship	1.86 (2.06)	6.28* (6.98)			3.14E+07 (.)	1.86E+08 (.)		
Age: 15-19	1.13 (0.35)	2.65*** (0.75)	18.61*** (2.82)	13.76*** (1.78)	1.01E+09 (.)	4.63E+08 (.)	55.34*** (11.11)	54.62*** (20.68)
Single	1.23 (0.48)	1.56 (0.61)	1.57** (0.29)	0.92 (0.16)	0.67 (0.50)	0.10*** (0.07)	0.56*** (0.08)	0.29*** (0.06)
Divorced	1.02E+09 (.)	2.50E+09*** (2.93E+09)	0.00 (.)	0.23 (0.23)	0.00 (0.00)	0.00*** (0.00)	0.34 (0.36)	0.34 (0.34)
Compulsory education	0.00*** (0.00)	0.15** (0.12)	0.20*** (0.05)	0.23*** (0.05)	14.60*** (11.07)	5.00E+08 (.)	0.25*** (0.07)	0.63 (0.27)
Professional Secondary School	0.00*** (0.00)	3.88* (3.01)		1.80** (0.46)	13.24 (.)	1.98E+09*** (1.52E+09)		3.38* (1.59)
General Secondary School	0.00*** (0.00)	0.87 (0.76)	4.65E+09*** (1.57E+09)	7.48E+08 (.)	29.13*** (29.13)	0.00*** (0.00)	4.82E+09 (.)	1.59E+09 (.)
Bachelor degree	162.40*** (238.74)	1.71E+09*** (1.77E+09)	0.39** (0.17)		0.00*** (0.00)	25047*** (34273.02)	0.26*** (0.13)	
Participation in Training Program	2.05E+09*** (1.34E+09)	0.58 (0.30)	16.84*** (10.07)	7.94E+10*** (3.99E+10)	0.00*** (0.00)	0.00*** (0.00)	5.00** (3.54)	5.16E-10 (.)
Number of observations for $Y_i$	467	935	330	571	13	9	347	164
Count- $R^2$ for every $Y_i$								

Source: own elaboration

## **Future work**

In the near future, we will first of all test the Multinomial LOGIT model against alternative models, namely the conditional LOGIT and the sequential LOGIT model for occupational choices. Various tests will be carried out to verify some of the assumptions of our model. A particular attention will be given to the determinants of occupational choices. We also intend to analyse the determinants of labour market flows. In particular, we will focus on the probability of the workers on fixed-term contracts to find permanent jobs, compared to the unemployed.

However, the main emphasis of future work on the project will be on comparing the experience of analysed transition countries (Slovenia, Poland and possibly Romania) with that of a sample of 10 EU countries in a separate comparative paper. In this case, the main data source will be an *ad hoc* survey carried out in 1995 (Denmark, Finland, Iceland, Norway, Scotland, Sweden) and in 1998 (France, Germany, Italy, Spain) within the context of the TSER-EU research project on Youth Unemployment and Social Exclusion (YUSE) in Europe. The comparison with EU countries will give important insights on the possible distortions existing in the CEE youth labour market.

Besides that, we would also like to prepare separate country studies of Youth Unemployment targeting country-specific institutional settings and providing policy-relevant conclusions. Due to problems with obtaining Labour Force Surveys' data by Statistical Offices the only possible outcome for this workshop was two papers on EU countries and one comparative paper on Slovenia and Poland.



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Tab. A1- Sample population by gender, citizenship and labor market status (Slovenia - 1997)

	<i>Men</i>		<i>Women</i>		<b>Citizenship</b>				<b>TOTAL</b>	
	N	%	N	%	<b>Foreign</b>		<b>Slovene</b>		N	%
					N	%	N	%		
<b>Education</b>	3394	12.36	3491	11.74	23	5.45	6862	12.08	6885	12.03
<b>Non-participation</b>	6858	24.97	11016	37.04	122	28.91	17752	31.26	17874	31.24
<b>Unemployed</b>	2770	10.08	2579	8.67	110	26.07	5239	9.23	5349	9.35
<b>Permanent employment</b>	11889	43.28	10742	36.12	127	30.09	22504	39.63	22631	39.56
<b>Temporary employment</b>	1294	4.71	1369	4.60	32	7.58	2631	4.63	2663	4.65
<b>Self-employed</b>	1265	4.61	543	1.83	8	1.90	1800	3.17	1808	3.16
<b>TOTAL</b>	27470	100	29740	100	422	100	56788	100	57210	100

Source: own elaboration of LFS data

Tab. A2: Sample population by age and labor market status (Slovenia-1997)

	<b>15-19</b>		<b>20-24</b>		<b>25-34</b>		<b>35-54</b>		<b>&gt;55</b>	
	N	%	N	%	N	%	N	%	N	%
<b>Education</b>	4438	90.52	1992	48.15	338	6.36	3	0.03	7	0.01
<b>Non-participation</b>	45	0.64	100	1.04	301	2.58	2715	11.44	14712	89.53
<b>Unemployed</b>	429	5.40	1120	15.05	1227	11.38	2165	10.47	408	2.37
<b>Permanent employment</b>	137	1.54	2013	21.99	6412	65.67	13180	72.64	889	7.00
<b>Temporary employment</b>	235	1.90	995	13.62	836	12.77	588	3.11	9	0.12
<b>Self-employed</b>	3	0.00	25	0.14	298	1.25	1061	2.30	421	0.98
<b>TOTAL</b>	5287	100.00	6245	100.00	9412	100.00	19712	100.00	16446	100.00

Tab. A3: Sample population by education and labor market status (Slovenia-1997)

	Without Compulsory Education		Incomplete Compulsory Education (4-7 Classes)		Compulsory Education		Professional Secondary Education (3 years)		Professional Secondary Education (4 years)		Secondary education)	
	N	%	N	%	N	%	N	%	N	%	N	%
<b>Education</b>	4	2.02	219	7.05	3729	20.52	21	1.07	201	1.55	2581	17.89
<b>Non-participation</b>	174	87.88	2021	65.03	7783	42.82	778	39.78	3017	23.24	2788	19.32
<b>Unemployed</b>	3	1.52	315	10.14	1496	8.23	279	14.26	1658	12.77	1330	9.22
<b>Permanent employment</b>	15	7.58	390	12.55	4012	22.08	718	36.71	6822	52.55	6691	46.37
<b>Temporary employment</b>	1	0.51	38	1.22	414	2.28	102	5.21	960	7.40	723	5.01
<b>Self-employed</b>	1	0.51	125	4.02	740	4.07	58	2.97	323	2.49	316	2.19
<b>TOTAL</b>	198	100	3108	100	18174	100	1956	100	12981	100	14429	100

	Bachelor degree (3 years)		Laurea		Post-graduate	
	N	%	N	%	N	%
<b>Education</b>	90	2.77	40	1.45	0	0.00
<b>Non-participation</b>	752	23.15	486	17.60	75	16.70
<b>Unemployed</b>	160	4.93	102	3.69	6	1.34
<b>Permanent employment</b>	1936	59.61	1797	65.06	250	55.68
<b>Temporary employment</b>	201	6.19	208	7.53	16	3.56
<b>Self-employed</b>	109	3.36	129	4.67	7	1.56
<b>TOTAL</b>	3248	100	2762	100	354	100

Tab. A4- Sample population by gender and labor market status (Poland - 1997)

	<i>Men</i>		<i>Women</i>		<b>TOTAL</b>	
	N	%	N	%	N	%
<b>Education</b>	1361	5.37	2089	7.48	3450	6.48
<b>Non-participation</b>	7943	31.34	12434	44.54	20377	38.26
<b>Unemployed</b>	1544	6.09	1873	6.71	3417	6.42
<b>Permanent employment</b>	9745	38.45	8501	30.45	18246	34.26
<b>Temporary employment</b>	683	2.70	435	1.56	1118	2.1
<b>Self-employed</b>	4067	16.05	2584	9.26	6651	12.49
<b>TOTAL</b>	25343	100	27916	100	53259	100

*Source: own elaboration of LFS data*

Tab. A5: Sample population by age and labor market status (Poland- 1997)

	<b>15-19</b>		<b>20-24</b>		<b>25-34</b>		<b>35-54</b>		<b>&gt;55</b>	
	N	%	N	%	N	%	N	%	N	%
<b>Education</b>	198	3.29	963	19.79	317	3.90	603	3.11	1369	9.21
<b>Non-participation</b>	5076	84.39	581	11.94	944	11.63	2919	15.05	10857	73.03
<b>Unemployed</b>	286	4.75	796	16.36	815	10.04	1393	7.18	127	0.85
<b>Permanent employment</b>	326	5.42	1977	40.64	4579	56.41	10396	53.60	968	6.51
<b>Temporary employment</b>	94	1.56	236	4.85	247	3.04	392	2.02	149	1.00
<b>Self-employed</b>	35	0.58	312	6.41	1216	14.98	3692	19.04	1396	9.39
<b>TOTAL</b>	6015	100.00	4865	100.00	8118	100.00	19395	100.00	14866	100.00

Tab. A6: Sample population by education and labor market status (Poland-1997)

	Compulsory Education		Professional Secondary Education		Secondary education		Laurea)	
	N	%	N	%	N	%	N	%
<b>Education</b>	0	0.00	757	20.24	2693	26.79	0	0.00
<b>Non-participation</b>	18235	53.07	1133	30.29	0	0.00	1009	19.77
<b>Unemployed</b>	2238	6.51	272	7.27	757	7.53	150	2.94
<b>Permanent employment</b>	8604	25.04	1233	32.96	5053	50.26	3356	65.77
<b>Temporary employment</b>	733	2.13	72	1.92	216	2.15	97	1.90
<b>Self-employed</b>	4551	13.24	274	7.32	1335	13.28	491	9.62
<b>TOTAL</b>	34361	100	3741	100	10054	100	5103	100