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ÜLLE MARKSOO

Long-term unemployment and its regional disparities in Estonia

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I. The author participated in study design and writing the manuscript and is fully responsible for data collection and analysis.

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Venesaar, U., **Marksoo, Ü.** and R. Maldre (2001), Outflow from Employment and the Resulting Social Exclusion of the Vulnerable Groups in Estonia. In: Ü. Ennuste and L. Wilder (eds), *FACTORS OF CONVERGENCE: A Collection for the Analysis of Estonian Socio-Economic and Institutional Evolution*. Estonian Institute of Economics at Tallinn Technical University, pp. 153–190.

ABSTRACT

There is a growing concern for the high and persistent unemployment over the Europe. Long-term unemployment (unemployment over 12 months) is a serious problem because of economic and social costs, erosion of human capital, social exclusion and elevated risk of poverty. The long-term unemployed will lose their employability and attractiveness to employers, thus the changes of finding a job decline as unemployment spells continue.

The aim of the study was to investigate the impact of region of residence and individual characteristics in the probability of being long-term unemployed, i.e. to find out what kind of people and regions are under the highest risk of falling into long-term unemployment. The data used for the analysis come from the Estonian Labour Force Survey microdata and the regional analysis is made at the NUTS-3 level. The current study examined the formation, development and regional disparities of long-term unemployment in Estonia during the period of almost last twenty years, since the beginning of the 1990s until 2010. The main analyses covered the period between 2000 and 2010. This enabled the changes in the structure of long-term unemployment and trends to be examined both during the economic recession and economic growth period.

The data reveal significant variation in the incidence and duration of unemployment across the country. Structural unemployment resulting from a change in the demand structure for labour has been mentioned as the main reason for long-term unemployment in Estonia. There were three main turning points that caused the rise in overall unemployment – economic restructuring at the beginning of the 1990s, the Russian economic crisis 1998–1999 and the ongoing global economic crisis that started to influence the labour market in 2008. There are significant and persistent regional unemployment disparities in Estonia. Since the beginning of the 1990s unemployment has been highest in the eastern parts of the country – North-Eastern and Southern Estonia. Thus, we can observe the emerging polarisation between the eastern and western parts of the country. The results of the regression analysis showed that people living in the eastern regions of the country are faced with the elevated probability of being unemployed, also after considering the impact of other personal characteristics.

The results of the regression analysis that compared the characteristics of long-term unemployed with short-term unemployed showed that ethnic minorities, older people and people with low educational attainment have been the most likely to be long-term unemployed both during the boom (2006) and bust (2009) times. Regional differences were significant only during the economic boom when people living in North-Eastern Estonia and in rural areas were most likely long-term unemployed. The results showed a narrowing of differences between regions and population groups during the economic recession compared to the economic boom, as the unemployment growth

influenced all people. In other words, the economic bust has levelled off disparities between population groups and regions.

There were close to 116,000 unemployed and 53,000 long-term unemployed in 2010, and the long-term unemployment rate was 7.7%, which was twice as high as the average in the European Union. It appeared that a low level of education and the consequent lack of special skills and qualifications was the main barrier that prevented people from exiting unemployment. As in Estonia both individual characteristics of unemployed and region of residence are important determinants in probability of staying unemployed and long-term unemployed; supply-side and demand-side measures should be implemented in reducing the duration of unemployment.

1. INTRODUCTION

There has been a growing concern for the widespread and persistent unemployment in European societies during the last decades. A troubling aspect of unemployment is its long-term nature (Nesporova 2002). Many studies have shown that the chances of finding a job diminish quite rapidly when the duration of unemployment increases (Machin and Manning 1999; Berkel and Brand 1996). It is widely believed that duration is the key variable explaining the rise and persistence of unemployment in Europe (Martin 1998, 40). There is some evidence that the long-term unemployed (unemployed over 12 months) are relatively more likely to become very-long term unemployed (unemployed over 24 months) in some countries, while they are more likely to exit the labour force in others (OECD 2002). In Europe 40% of unemployed were long-term unemployed, i.e. 9.2 million people had been out of work for over a year in 2010. In Estonia there were 52,600 long-term unemployed people in 2010, i.e. 45% of total unemployed.

There are several reasons for being concerned about persistent long-term unemployment from economic and social viewpoints (Layard et al 2005; Machin and Manning 1999; OECD 1993). When being unemployed for a long time the professional skills and also the habit of working of a person decline. The long duration of unemployment spells tends to cause the erosion of human capital and lead to poverty, social exclusion and stress (Rutkowski 2006; Pissarides 1992; Jurajda and Munich 2002; Kieselbach 2004). Serious coping difficulties occur due to the sudden fall in the quality of life, which in turn affects health and family relationships alike. Long-term unemployment is also associated with school failure for the children of the affected workers (OECD 2011b). Most long-term unemployed experience a loss of confidence and self-esteem, and this frequently leads to feelings of hopelessness in relation to finding work and a reduction in job search activity, often resulting in eventual withdrawal from the labour market altogether (Layard et al 2005; Martin 1998). Long-term unemployment is deeply damaging, because it makes individuals increasingly unattractive to employers, so that even in a recovery, when labour becomes scarce and inflation starts rising, mass unemployment continues (Boeri et al 2000). Unarguably the long-term unemployed people are the most disadvantaged people in the labour market (Chapman 1993). Long-term unemployment gives rise to costs not only for individuals but also for society, in the form of lost output and welfare (Di Domenico and Spattini 2008, 99). For example, public welfare expenditures can increase, which strain government budgets at all levels (Partridge and Rickman 1998, 193).

Prolonged unemployment spells may also reflect a lack of employment opportunities concentrated in specific geographical areas, as the incidence and duration of unemployment are not uniformly distributed across regions (Collier 2005). Long-term unemployment is largely concentrated in some depressed areas characterised by persistently low labour demand. The tenacity of localised

unemployment, and in particular long-term unemployment, has been cited as an important factor explaining the continuing problem of social exclusion in some rural areas (Lindsay et al 2003). Regions with concentration of long-term unemployed may have difficulties attracting new firms, making it difficult for a state or region to break out of a downward economic cycle (Partridge and Rickman 1998, 194).

In Estonia there have been two periods of very high long-term unemployment: the first one after the Russian economic crisis in 2000, when the number of unemployed amounted to 90 thousand – 45% of those were long-term unemployed, and the second and more serious one during the global economic crisis that started at the end of 2008. At the beginning of 2010 the unemployment rate reached its record level – 19.8% and so did the long-term unemployment rate in mid-2010 – 8.5%. As it is known from past recessions the steep rise in long-term unemployment can take many years to unwind (OECD 2011a). Also the International Monetary Fund predicted that the recovery of the labour markets would be slow since the ongoing global recession was unusually severe and deep, with a slow recovery (Terrones et al 2009). As mentioned by Chapman (1993) in a recession period, when there are proportionally far fewer jobs being created, the short-term unemployed are much more likely to still be jobless a year later. Therefore, a second and much more serious increase of long-term unemployment in Estonia was expected in 2010 and 2011. That is why it is extremely important to investigate the reasons for and structure of long-term unemployment in order to prevent and mitigate long-term unemployment and its socio-economic consequences. For that reason long-term unemployment is the main focus of the current dissertation; this is a topic that has not been studied thoroughly so far, particularly in a regional aspect. Despite its small size, we can find significant differences in regional unemployment in Estonia. We can observe that regional unemployment disparities were growing until 2008 when the differences in unemployment rates between the best and the worst-off regions differed by a factor of nearly three.

The aim of the current study is to clarify the role of region of residence and individual characteristics in the probability of being long-term unemployed. Previous research has mainly analysed unemployment development in Estonia but only some papers have been focusing on long-term unemployment (Venesaar et al 2001; Paas and Philips 2002; Venesaar et al 2004; Marksoo 2007) and none of them deal with the regional disparities of long-term unemployment. The current study gives a more profound analysis about the development and structure of long-term unemployment and its regional disparities in Estonia during 1993–2010. This dissertation will address the following research questions: How have the dynamics and structure of long-term unemployment in Estonia changed since the beginning of the transition and especially during the periods of the economic boom and bust? What kind of people and regions are most at risk of long-term unemployment? A better understanding of the factors shaping regional disparities will help policymakers

to devise more appropriate and effective policy instruments to reduce unemployment in high-unemployment areas (Armstrong and Taylor 2000).

The unemployment data used for analysis have been mainly derived from Labour Force Survey microdata. This is the only data source that gives the most comprehensive and internationally comparable overview about unemployment and long-term unemployment dynamics.

The thesis is structured as follows. First, the theoretical background about theories of long-term unemployment and its regional disparities is presented. The next chapter introduces research data and presents research methods. The fourth section gives an overview about general unemployment, analysis of the formation and trends of the long-term unemployment and the structure of long-term unemployment by gender, age, ethnicity, education and place of residence. This is followed by Estonian active labour market policies targeting the long-term unemployed and finally the main findings are summarised and discussed.

The dissertation consists of four papers.

- The first paper sheds new light on the development and determinants of long-term unemployment in Estonia over the last two decades, taking a particular focus on the years of the economic boom and bust. The aim is to clarify the population groups most vulnerable for extended exclusion from the labour market in Estonia and the role of both individual and contextual factors on becoming long-term unemployed. The analysis is based on the individual level data of the Estonian Labour Force Survey.
- The aim of the second paper is to examine regional disparities in unemployment rates in Estonia and Poland extending from 1989 to the onset of the global financial crisis in late 2008. A particular focus of the research is on the extent to which east–west disparities in unemployment existed within each country (and within Eastern and Central European countries more broadly) both before and after the onset of the crisis. The analysis of the Estonian part is based on Estonian Labour Force Survey data, and focuses on recent changes in unemployment in 2006 (peak of economic growth) and 2008 (the first year of the slowdown).
- The aim of the third paper is to investigate the formation of unemployment disparities between regions in Estonia during 1989–2010, and to clarify the role of region of residence and personal characteristics in the probability of being unemployed. We use Estonian Labour Force Survey microdata, and similarly with first and second paper we apply logistic regression in data analysis. Our central research question asks whether the impact of region of residence on unemployment remains significant after considering personal variables.
- In the fourth paper the demand side of regional labour market is considered. A firm formation analyses in counties and among sectors is studied for

explaining the regional differences. The aim of the paper is to assess the contribution of small and medium-sized enterprises in the regional economic development of Estonia, focusing on their potential for generating employment. The analysis is based mainly on National Tax Board data.

2. THEORETICAL BACKGROUND

2.1. Causes of long-term unemployment: theoretical explanation

There is already long-term interest in long-term unemployment, its causes and consequences, and how it varies by population groups (Jackman and Layard 1991; Pissarides 1992; Payne et al 1996; Meager and Evans 1998; Partridge and Rickman 1998; Machin and Manning 1999; OECD 2002; Collier 2005; etc.). Many theories claim to explain why unemployment exists and persists in competitive markets but each particular theory can explain only certain aspects of the unemployment problem. However, no single theory provides a convincing explanation of why unemployment sometimes afflicts a large fraction of the workforce, of why unemployment targets some groups more than others, and of why some workers remain unemployed for a very long time (Borjas 2005, 477). By Armstrong and Taylor (2000) unemployment occurs for a multiplicity of reasons there is no single cause.

The causes of high unemployment rates must be sought largely in factors outside the control of individual unemployed people. Several theories have been put forward suggesting that the persistence of high unemployment rates may be due in part to processes that lock the unemployed into long-term joblessness (Payne et al 1996). For example skills mismatch is one of the most prevalent labour market explanations of unemployment. According to the mismatch theory – one could cite skill shortages persisting through periods of high unemployment. This perspective argues that there is a mismatch between the skills of the unemployed and the skills demanded by employers (OECD 1989; Houston 2005). In occupational terms, there has been a shift towards non-manual work in general and knowledge work (requiring higher level skills and qualifications) in particular. Those without the skills to adapt to these changes are often faced with the choice of long-term unemployment or low-paid, unstable work (McQuaid and Lindsay 2005).

The substantial skills mismatch, characteristic of most new European Union (EU) member states' labour markets, may mean that skills acquired under central planning became obsolete, but also may suggest that education systems are not effective in producing workers with the kinds of skills needed in modern economies (Rutowski 2007). Under conditions of strong labour demand, the long-term unemployed largely lack employability or job readiness skills. Their problem is not a lack of available jobs, it is that they lack skills (or incentives) necessary to take available jobs (Rutkowski 2007). This mismatch between labour demand and labour supply results in structural unemployment (Armstrong and Taylor 2000). The sectoral shifts hypothesis argues that structural unemployment arises because the skills of workers cannot be easily transferred across sectors. The skills of workers laid off from declining industries have to be retooled before they can find jobs in growing industries (Borjas 2005, 515).

This, it is argued, is evidence that the unemployed, particularly the long-term unemployed, lack generic 'employability' (Houston 2005). Therefore, long-term unemployment continues to exist in the face of skill shortages in some sectors and the difficulty experienced by some employers in filling job vacancies.

The concept of 'employability' is used for analysing long-term unemployment issues by McQuaid and Lindsay (2002; 2005). They present a 'broad' framework of employability, which takes account not only of 'individual factors' (including employability skills), but also 'personal circumstances' and 'external factors'. They argue that these factors have a close two-way interaction with each other and that employability can be seen as referring to the individual's relationship with a single job (or 'class of jobs'), so that someone considered 'employable' for one job might not be considered so for a different job (McQuaid and Lindsay 2005, 214). However Houston (2005) argues that skills mismatch explanation of unemployment does not provide a direct explanation of why unemployment is unevenly distributed within regions. In other words, there is also a spatial mismatch between the residential location of the unemployed and the location of suitable jobs. By Houston spatial mismatch hypothesis should not be seen as an alternative to the skills mismatch perspective, but rather as a complement to it. Layard et al (2005) looked directly at the question of spatial mismatch as an explanation of unemployment persistence.

A second theory suggests that long-term unemployed people are not effective competitors for jobs (Machin and Manning 1999; Layard et al 2005; Payne et al 1996). This makes them less effective in reducing wage pressure thereby causing a rise in the overall unemployment rates. If the labour market were working efficiently, then in theory an excess supply of labour should lead to a fall in wages, allowing more jobs to be created, and unemployment should fall (Payne et al 1996). However, so-called insider-outsider theory suggests that people in work may try to exclude unemployed people from competition for jobs in order to safeguard their own wages and conditions of employment (Heylen 1992; Lindbeck and Snower 1994; Payne et al 1996). Insiders have this market power because of labour turnover costs, which make it costly for the firm to replace incumbent workers by unemployed outsiders. Hence hiring long-term unemployed demands high training costs as a result of duration effects (Graafland 1991).

A third theory refers to 'duration dependence' in unemployment (Heylen 1992; Payne et al 1996; Machin and Manning 1999; Rutkowski 2003), whereby the changes of finding a job decline as unemployment spells continue. Thus, high long-term unemployment has been argued to be a cause of high unemployment itself (Machin and Manning 1999). This is due to a large extent to selection effects: the most skilled, flexible and motivated amongst the unemployed get work quickly, leaving behind those who are more difficult to place. This has a significant negative psychological impact for long-term unemployed

as they lose their willingness to compete for jobs (ILO 1996). Therefore, jobseeking of the long-term unemployed is usually less intensive due to the demoralisation caused by the prolonged failure of getting a job (Beissinger and Möller 2000). There exists evidence from some countries that quite often employers see the duration of unemployment as an important negative signal in recruitment (Heylen 1992; Meager and Evans 1998; OECD 1993; Layard et al 2005; Rutkowski 2003; Martin 1998). They believe that the long-term unemployed are unmotivated and lacking in relevant skills and work habits. Some employers automatically reject applications from long-term unemployed people purely on the basis of the duration of unemployment and tend to pick the applicant with the shortest unemployment spell (Blanchard and Diamond 1994; Martin 1998; Layard et al 2005). Employers tend to believe that persons who are the long-term unemployed have already been rejected by other employers (Armstrong and Taylor 2000). In the job queue for vacancies, the long-term unemployed thus frequently stand at the end of the queue. They must also compete against new labour market entrants with recently acquired training and skills (ILO 2000). Thus, even when employment starts to grow it has less impact on the labour market entry of the long-term unemployed (Partridge and Rickman 1998; Machin and Manning 1999; Layard et al 2005; Jackman and Layard 1991). Most of the new jobs are instead taken by short-term unemployed and by new entrants to the labour market (European Communities 1998). Thus, states undergoing larger sectoral reallocations are likely to experience a greater long-term unemployment rate, most likely because it takes time for workers to shift from declining sectors to expanding sectors (Partridge and Rickman 1998). Persons who are unemployed – particularly the long-term unemployed – lose the opportunity of maintaining and updating their skills by working. It has the obvious implication that it is important to catch people early in each unemployment spell and give them work or training to prevent the loss of employability (Webster 2005).

A fourth theory of how people may become locked into unemployment suggests that the social security system discourages unemployed people from returning to work (Payne et al 1996). So-called benefit dependence theories are based on the idea that the durations of unemployment are longer when the benefits are higher and duration of benefits longer (Webster 2005; Fitzenberger and Wilke 2004; Nickell and Layard 1999; Layard et al 2005; Borjas 2005). First, a combination of generous unemployment benefits systems and the loss of skills during unemployment may help explain some international differences in persistent unemployment. Reflecting the erosion of (already low) skills, job opportunities available to the long-term unemployed will provide relatively low wages, which may not give adequate incentives to seek work if unemployment benefits are unduly high. This will in turn lead to further losses in skills (OECD 1993). An empirical literature examining OECD countries also shows that the length of the benefits matters – unemployed workers tend to notably intensify their job search about one month before their period of unemployment benefit

entitlements ends (OECD 2005). The findings by Arnzt and Wilke (2009) indicate that unemployment benefits may have the strongest impact on the duration of unemployment in Germany. However, as mentioned by Partridge and Rickman (1998), unemployment insurance benefits should have little influence on long-term unemployment but are positively related to the short-term unemployment rate.

In addition 'characteristics' theories should be mentioned (Webster 2005). These theories are based on the observation that long-term unemployment is concentrated among people with particular characteristics. Young people appear to experience significantly higher rates of unemployment than older age groups (Layard et al 2005; Collier 2005; Rutkowski 2006) but their long spells of unemployment are relatively rare (Machin and Manning 1999). In terms of search theory, younger workers are more likely to engage in "job-hopping" in an attempt to find their most preferred match (Layard et al 2005). The young tend to experience particularly high rates of unemployment during recessions since it is most difficult to enter the labour market at that time (Bell and Blanchflower 2010). Older workers have the highest propensity to be long-term unemployed especially those losing their jobs in traditional industrial sectors. The long-term unemployed tend to be less well qualified educationally and to have higher rates of various types of disability. According to Jurajda and Munich (2002) the most important factor behind the increase of long-term unemployment relates to the increase of the duration of unemployment among low-educated people. The unemployment rate is generally higher the lower the educational level is. Less skilled workers have lower chances of finding work, and accordingly face longer unemployment spells. As a result they are dis-proportionately represented among the long-term unemployed (Rutkowski 2006). Gender is important because of the strong link with labour force participation (Collier 2005). In most countries the incidence of long-term unem-ployment is lower for women than men. One reason for this is that a higher proportion of women than men are leaving the labour force rather than entering employment (Machin and Manning 1999; Domenico and Spattini 2008). On the other hand women tend to have higher unemployment and long-term unem-ployment rates. Ethnicity is also associated with the risk of long-term unem-ployment in a significant way (Machin and Manning 1999; Rudolph 2001). For example, being a member of the ethnic minority population tends to be one of the principal risk factors of becoming unemployed and long-term unemployed in the Baltic countries (OECD 2003; Aasland and Flotten 2001). It is reasoned that, if the labour force were to come to contain higher proportions of these types of people, then this in itself could explain increases in long-term unemployment (Webster 2005). These groups tend to experience much greater job insecurity than other members of the labour force, resulting in repeated spells of unemployment and long periods of joblessness (Martin 1998, 44).

2.2. Regional dimensions of unemployment

The large differences in regional unemployment rates have been common to all the Central and Eastern Europe countries (CEE). These differences emerged early in the transition process and they tend to remain highly persistent over time (Bornhost and Commander 2006; Huber 2007; 2008). This persistence is supported by weak equilibration mechanisms including migration, capital mobility and wage adjustments (Bornhost and Commander 2006; Huber 2006; 2007; Jurajda and Terrell 2009).

A concise overview of the spatial variations in unemployment in CEE in the first few years of transition is provided by Scarpetta (1995). He argues that some of the interregional disparities are inherited from the past — old disparities — while others — new disparities — are a by-product of the dramatic changes introduced by the transition from a centrally planned to a market economy. Huber (2006) argued that the increased regional disparities between regions are rooted in the past pre-transition factors and therefore, regional disparities may be more of a long-term nature rather than a transitory phenomenon. Huber stressed (2007) that the starting conditions had an important role to play in subsequent development trajectory of the regions. Keune (1998) also agrees that the regions that showed better performance at the outset tended to perform better in later phases as well, while most regions that were lagging at the beginning have not been able to close the gap. The same conclusion has been presented by Huber (2006; 2007), who argued that regional disparities in transition countries are large, have increased over time and have led to stable distribution of "winners" and "losers" among regions; the ranking of regions has remained relatively stable throughout transition.

Many contributions focus therefore on the role of structural changes in determining regional unemployment disparities in transition. For example Rutkowski (2006) argues that two factors are decisive in the large and persistent regional unemployment disparities in transition economies: (1) region-specific labour demand shocks and (2) underlying structural factors, such as the sectoral structure, presence of strong urban centres, the skill composition of the labour force, and the development of the infrastructure. Regions dominated by agriculture and/or heavy industry suffer from higher-than-average unemployment rates because of (1) greater layoffs in agriculture and industry; (2) likewise, these sectors are able to create a smaller number of new jobs relative to the service sector; (3) and ugly looking old industrial areas with an already high number of unemployed are not attractive for establishing the new private enterprises in other sectors, including services (Scarpetta 1995). Scarpetta (1995) also argues that the manufacturing sector is especially important in explaining regional performance since this was the leading sector in the formerly centrally planned economies. For example, those industrial plants, which owing to their proximity to the former Soviet Union, were highly specialised in the production of goods for the Russian market, were especially

severely hit by the collapse in demand for their goods in the East, and they faced immense difficulties in selling their products to the West. Recent research by Ferragina and Pastore (2008) confirms that structural changes and related job losses in formerly important sectors were the key forces driving regional unemployment during the first decade of transition. A different pace of restructuring and the ability to attract foreign capital made the economic transformation fast, successful and relatively painless in some of the regions, while less successful regions started to lag behind. In case of demand-deficient unemployment there is a decline in the national level of demand and then regional unemployment rates rise and fall together, because they are economically highly dependent on other regions (Armstrong and Taylor 2000).

In addition to the structural factors, geographical location plays an important role in the emergence of regional disparities (Münich and Svejnar 2007). The relative location has both east-west and centre-periphery dimensions. Regions closer to the EU enjoy higher wages and economic growth. In particular in the CEE, regions with better market access to Western economies experience higher GDP and higher population growth rates, lower reductions in employment and lower unemployment (Huber 2007; Ferragina and Pastore 2008). Similar changes have been found in Estonia (Raagmaa 2006). Polarisation could be observed in the settlement system as well (Antons 2003; Tammaru and Kulu 2003). Capital cities have experienced substantially higher growth rates and lower unemployment than other regions. Indeed the privileged position of capital cities and their metropolitan areas in regional development seems to be one of the main features in regional development in transition *vis à vis* mature market economies (Huber 2007; Tammaru 2005).

Peripheral agricultural regions have strongly suffered from the transition (Huber 2006). However, unemployment in rural agricultural areas is usually lower than that in regions with monofunctional industrial areas since workers in such regions could be engaged in subsistence agriculture, i.e. they can also accept temporary and seasonal jobs. Therefore, the problem in agricultural areas is underemployment rather than unemployment in its formally measured sense (Rutkowski and Scarpetta 2005).

In high unemployment areas, a much greater proportion of total separations from employment, and thus of the inflows into unemployment, will be involuntary. These people are more likely to be the less skilled, less productive employees, precisely those who will experience greater difficulty in finding new employment, especially in slack labour markets (Martin 1998, 42). Thus, population composition of regions is very important in explaining regional disparities. The probability of becoming unemployed varies tremendously between individuals with different socio-demographic backgrounds and region of residence (Armstrong and Taylor 2000; Elhorst 2003; Brainerd 2010; Brown and Sessions 1997; Zeilstra and Elhorst 2006). Age, education and ethnic composition exert an especially important effect on regional unemployment. Unemployment rates in transition economies are particularly high among less

educated workers (Rutkowski and Scarpetta 2005; Rutkowski 2006) and in regions where they are overrepresented (Jurajda and Terrell 2009). Jurajda and Terrell (2009) pointed out that when there is a collapse in local demand for labour, the low-skilled workers may be less likely to migrate than highly skilled workers, creating more dispersion in the regional unemployment.

Many studies conclude that the regional context is a significant determinant of the individual duration of unemployment even after considering major individual-specific factors (Brown and Sessions 1997; Folmer and Van Dijk 1998). Arnzt and Wilke (2009) pointed out that individual-level characteristics have a much stronger impact on the duration of unemployment than regional factors. Thus, regional policies may only be a supplementary means of reducing the duration of unemployment (Arntz and Wilke 2009, 45).

Brown and Sessions (1997) attempted to evaluate the differential effects of regional and demographic influences on an individual's propensity to experience a spell of unemployment. They tried to identify how far the regional variations in unemployment can be explained by pure regional effects and how far they are determined by regional variations in the values of the other independent variables (Brown and Sessions 1997, 361). They show that even after considering the effect of a large number of socio-demographic variables, a person's region of residence is a significant determinant of the chances of becoming unemployed. This relationship is even more significant for the long-term unemployed (Collier 2005). Thus there is no doubt that an individual person's chances of becoming unemployed are far greater if they possess certain socio-demographic characteristics, and if they live in certain locations (Armstrong and Taylor 2000, 194). Therefore, policies to reduce unemployment need to be directed at both people and places.

3. MATERIALS AND METHODS

Registered vs. ILO unemployment

Labour market data are gathered mainly from two sources: labour force surveys (LFS) and registered statistics. Statistics gathered from different sources are not and cannot be identical for different groups of population covered. The differences between registered unemployment and the data from labour force surveys are not characteristic to Estonia only but appear in all countries. There is no clear pattern, and registration data are higher than survey unemployment in some countries and lower in others (Marksoo and Luuk 1999). In the majority of European Union (EU) countries, the number of registered unemployed is greater than the number of unemployed shown in the LFS. However, in almost a third of the countries for which data are available, the reverse is true, i.e. the number of unemployed in the LFS is greater (European Communities 2001).

The figures for the registered unemployed with the Public Employment Services (PES) are the most commonly used references for the analysis of labour market policies on the national level. Unemployed persons need to register with the PES whenever they want to find a job and/or benefit from public support or to participate in a labour market policy measure.

In the LFS, data are collected through a questionnaire. The adoption of this common definition of unemployment in all Member States, combined with a great effort to harmonise labour force survey questionnaires, ensures a maximum of international comparability of labour market statistics. The LFS enables the calculation of comparable data on employment and unemployment across countries. The official figure of registered unemployed is subject to national rules and definitions specifically linked to each country's tradition and which differ across countries. The difference between the LFS unemployed and registered unemployed in each country reflect the different national regulations on unemployment registration in combination with benefit regulations (Melis and Lüdeke 2006).

The differences in the figures come from the fact that the data of the two sources coincide only partly. The LFS data include unregistered jobseekers, who are seeking a job through friends and relatives, while the registered data may include the unemployed, who were working during the reference week and on the other hand the inactive persons, who are registered but are not seeking a job (Mehran 1995). LFS data are not sufficient for policy development – therefore, administrative statistics are needed. On the other hand, administrative statistics are not sufficient and need to be backed up by LFS data (Sihto 2003).

Although the LFS data allow us to get the real extent of unemployment, it is not possible to conduct a more thorough analysis by counties. Many counties are relatively small; therefore, the survey's sample is small and doesn't even enable to bring out the age-sex structure of unemployed by county, not to

mention the municipality level. Of course regional differences in unemployment do not only occur county-wise but for several reasons there could also be internal differences. The further away from the county centre and capital, the greater is the number of unemployed and discouraged persons. Therefore, when a more thorough analysis for a county is needed, the data of registered statistics should be used although it doesn't comprise all of the unemployed. Other options would include conducting an additional survey or drawing an extended sample for the labour force survey (Marksoo 2003).

The analysis of this study is based on Estonian Labour Force Survey (ELFS) microdata. The ELFS is the only source that enables the annual dynamics of unemployment during 1989–2010 to be studied. The first ELFS with a sample of 10 000 people was carried out by Statistics Estonia from January to April in 1995. The survey was especially valuable because it had a retrospective part, which led back to the year 1989. This enables us to get data about both the pre-reform period (1989–1991) and the years that followed the reforms. The next survey (sample 5500) was in 1997 II quarter (retrospective part up to 1995). From 1997 labour force surveys have been carried out annually. The surveys of 1998 and 1999 were already more extensive (sample 13 000) and enabled unemployment indicators also be obtained on the county level. From 2000 the survey is conducted through the year and the results are published by quarters and by year (Statistical Office of Estonia 2005).

The target population of the ELFS contains all working-age residents of Estonia aged between 15–74 in the reference week. All data on 1997 and the following years are collected from this age group. The data on 1989–1996, which have been received retrospectively in the ELFS 95 and ELFS 97, are for the persons aged 15–69 (Statistical Office of Estonia 2005, 119). ELFS enables the working-age population to be analysed by employment status, dividing them into employed, unemployed and inactive (Figure 1).

In data analysis the definitions of the International Labour Organisation (ILO) are used. According to the ILO definition *unemployed* are those who had no employment during the reference week, had actively sought employment during the previous four weeks, and were available to start to work within the next two weeks. *Long-term unemployed* are those who have been seeking a job over 12 months and *very-long term unemployed* those who have been seeking a job over 24 months. In order to assess the economic activity of the population, the following indicators are used: (1) *activity rate* defined as the share of the labour force in the working-age (15–64) population, (2) *employment rate* defined as the share of employed from working-age (15–64) population, (3) *unemployment rate* defined as the share of unemployed from labour force (15–74), (4) *long-term unemployment rate* defined as the share of long-term unemployed from the labour force and (5) *long-term unemployment incidence* defined as the share of long-term unemployed from total unemployed.

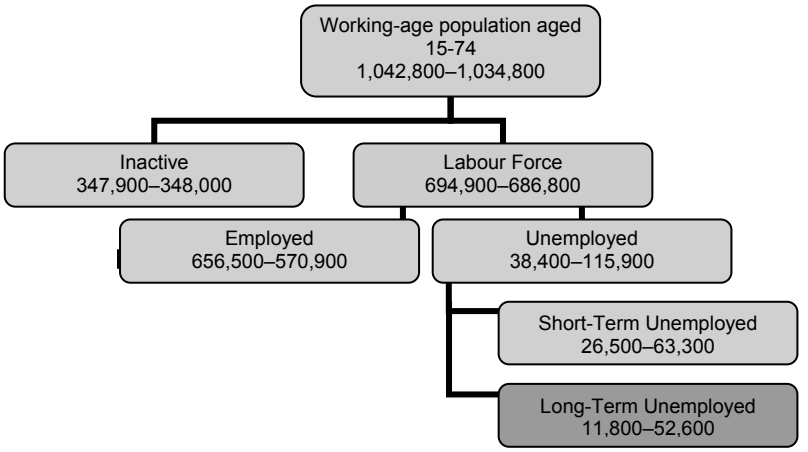

Figure 1. Working-age population by employment status in 2008 (numbers on left-side) and in 2010 (numbers on right-side)

Source: Labour Force Survey data

Although discouraged persons are not included among the unemployed, they are part of the population that have been unable to find work for a long time and are therefore also of interest to us. *Discouraged persons* are non-working persons who would like to work and would be available for work as soon as there is work, but who are not actively seeking work because they do not believe in the chance of finding any (Statistical Office of Estonia 2005, 114).

For analysing the educational attainment of labour force the following educational levels of International Standard Classification of Education (ISCED) are used. The first level *(below upper secondary)* includes people with primary and basic education; the second level *(upper secondary)* includes people with general secondary education, vocational education, vocational secondary education after basic education; the third level *(tertiary)* includes people with vocational secondary education after general secondary education, higher education, master's or doctor's degree.

The regional structure of Estonia is based on the EU Nomenclature of Territorial Units for Statistics (NUTS) in the current study. The EU NUTS consists of a three-level hierarchy of regions (with two additional levels of local administrative units, NUTS-4 and 5) created for the purposes of regional development planning and the disbursement of EU development and "structural adjustment" funds. Estonia is not large enough to be divided into NUTS-2 regions, and instead contains five NUTS-3 regions, each amalgamating counties (NUTS-4 regions, of which there are 15). The five regions are Northern Estonia (includes Harju County along with the capital Tallinn), North-Eastern Estonia (Ida-Viru County), Central Estonia (Järva, Lääne-Viru and Rapla Counties),

Western Estonia (Hiiu, Lääne, Pärnu and Saare Counties) and Southern Estonia (Jõgeva, Põlva, Tartu, Valga, Viljandi and Võru Counties). However, it should be noted that the sample size of ELFS is too small for calculating reliable long-term unemployment rates on the NUTS-4 level for all counties since the number of long-term unemployed is too small in smaller counties.

In the first article (Marksoo and Tammaru 2011) the analysis is based on ELFS 2006 data that include 16,786 working-age individuals with 605 unemployed, including 272 long-term unemployed, and 2009 data that include 16,246 working-age individuals with 1430 unemployed, including 383 long-term unemployed. The year 2006 was the peak year of economic growth (GDP growth +10.6%), while the year 2009 represents the bust year (GDP decline – 13.9% in 2009). Our research population consists of short-term unemployed and long-term unemployed. We fit a logistic regression model to clarify which population groups are most affected by long-term unemployment in the economic boom and bust years. The dependent variable in this analysis represents unemployment categories – short-term unemployed are coded 0 and long-term unemployed are coded 1. The set of independent variables includes place of residence, region, sex, age, education and ethnicity. We include regional variables in Models 1 and 3 and we add the demographic characteristics in Models 2 and 4.

In the second article (Marksoo et al 2010) we applied a logistic regression to 2006 and 2008 Estonian Labour Force Survey data to determine whether east–west regional differences in unemployment increased as a result of the global financial crisis in the fall of 2008. We first studied the dispersion of regional unemployment rates by calculating the coefficient of variation – the square root of the weighted variance of regional (NUTS-3 level) unemployment rates, divided by the national unemployment. As the next step, we applied binary logistic regression to clarify whether the region of residence still impacted unemployment after allowing for differences in the personal characteristics of the population in each region. Our research population, derived from ELFS data, consisted of 16,786 working-age individuals in 2006 and 18,370 in 2008, among whom 605 were unemployed in 2006 and 666 in 2008. We ran two sets of models using both 2006 and 2008 data. Models 1 and 3 included NUTS-3 level regions only (for 2006 and 2008, respectively), and we expected that the individuals residing in North-Eastern and Southern Estonia (i.e. the eastern parts of the country) would have the highest probabilities of being unemployed, whereas those living in Western and Northern Estonia (the latter region including the capital city of Tallinn) would have the highest probabilities of being employed. In models 2 and 4, control variables were introduced for the population characteristics of gender, age, education and ethnicity that were believed to influence regional unemployment levels.

In the third article we take a closer look at recent changes in unemployment based on ELFS 2006 (peak of economic growth), ELFS 2008 (lowest unemployment), ELFS 2009 (first year of economic slowdown) and ELFS 2010

when unemployment was at its record level. In our data analysis we first study the dispersion of regional unemployment rates by calculating the coefficient of variation. As the next step, we apply binary logistic regression to clarify whether the region of residence still impacts unemployment after studying personal characteristics. We use ELFS 2006, 2008, 2009 and 2010 data in this section of the analysis. Our research population includes 16,786 working-age individuals in 2006, 18,370 in 2008, 16,246 in 2009 and 16,490 in 2010. Among them are 605 unemployed people in 2006, 666 in 2008, 1430 in 2009 and 1668 in 2010. We run two models with ELFS 2006, 2008, 2009 and 2010. Models 1, 3, 5 and 7 include NUTS-3 level regions only, and we expect the individuals residing in counties in North-Eastern Estonia and Southern Estonia (i.e. in the eastern parts of the country) to have the highest probabilities of being unemployed and those living in the Western and Northern (capital city) regions to have the highest probabilities of being employed. In models 2, 4, 6 and 8 we add the following variables: gender, age, education, ethnicity and place of residence.

The fourth article (Venesaar and Marksoo 2006) is based on the database of the National Tax Board for the period of 1999–2004, where the registrations of enterprises are used as for the number of births and the number of enterprises at the end of the year are treated as the stock of enterprises. The subject of the research includes 15 counties of Estonia and their activity in firm formation. As Tallinn exceeds the number of firms and the formation activity per 1000 inhabitants by several times compared to several counties, for more clearly explaining the differences in entrepreneurship activity among counties, Tallinn has been excluded for calculating the average figures. The average figure of counties has been used in the analyses, whereas the contrast of Tallinn from the counties average has been brought out. Based on the firm formation rates per 1000 in the adult population, the studied counties have been divided into two: those whose activity of firm formation in the observed period was above the average (without Tallinn), and others whose respective figure was below the average. Differences in economic structures of counties and firm formation by fields of activity in counties have been looked upon as significant factors for firm formation activity. In this case the firm formation rate has been calculated as a percentage of the stock of enterprises.

4. MAIN RESULTS

4.1. Regional unemployment and long-term unemployment across European Union countries

Unemployment rates vary considerably between and within countries. Some countries and regions have persistently higher unemployment rates than others. Great changes in regional unemployment appeared in response to the global economic and financial crisis in 2008 when labour markets started to weaken in most European Union (EU) member states. In 2008 the unemployment (5.5%) and long-term unemployment rates (1.7%) in Estonia were lower than the average of the EU-27 (7.0% and 2.6%, respectively). Following several years of strong economic growth, which resulted in overheating of their economies, the Baltic States have all entered into a deep recession at the end of 2008. The severe increase in unemployment in the EU has led to a sharp rise in the duration of unemployment. The growth of unemployment had slowed down or even decreased only at the beginning of 2010 in most of the countries of the EU, but in some countries, such as Estonia, Latvia, Lithuania, Spain, Greece, Bulgaria and Slovakia, unemployment substantially increased. Unemployment increased the most in Estonia among the EU Members States; Estonia had risen to the fourth rank in terms of unemployment rate with 16.9% after Spain, Latvia and Lithuania in 2010. Estonia exceeded the average of the EU (9.7%) with this indicator by almost twice (Figures 2 and 3).

It appears that countries with high unemployment are more likely to have large shares of long-term unemployed persons. Therefore, long-term unemployment is spread among EU-27 regions in a similar manner to overall unemployment (Ferreira 2009).

While the long-term unemployment rate in the EU stayed at the rate of 2008 at the beginning of 2009, many of the short-term unemployed persons have become long-term unemployed and the long-term unemployment rate has increased to 3.9%. The fastest increase of long-term unemployment took place in Estonia, Latvia, Lithuania, Ireland and Spain, where the numbers of long-term unemployed multiplied. These are the same countries that are ranked highest in the list of general unemployment. The highest long-term unemployment rate (9.2%) in the EU for years has been Slovakia, with 64% of unemployed persons being long-term unemployed. Slovakia is followed by Latvia (8.4%) and Estonia (7.7%). The long-term unemployment rate has increased in all countries except Luxembourg. Less than 1.5% of the labour force consists of long-term unemployed persons in the Netherlands, Austria, Denmark, Cyprus, Luxembourg and Sweden. These countries are likewise the highest-ranked states in terms of employment in the EU.

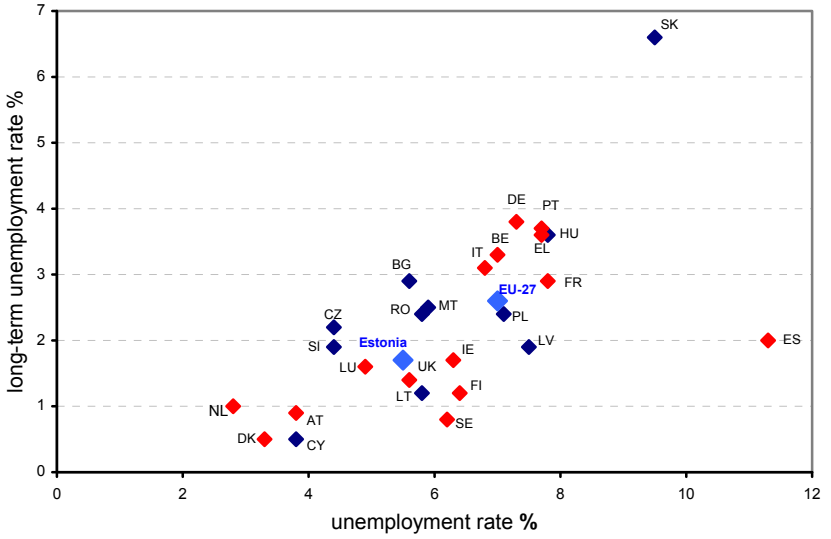

Figure 2. Unemployment and long-term unemployment rates in EU member states in 2008

Source: Eurostat database

AT-Austria; BE-Belgium; CY-Cyprus; CZ-Czech Republic; DE-Germany; DK-Denmark; EE-Estonia; EL-Greece; FI-Finland; FR-France; HU-Hungary; IE-Ireland; IT-Italy; LT-Lithuania; LU-Luxembourg; LV-Latvia; MT-Malta; NL-Netherlands; PL-Poland; PT-Portugal; RO-Romania; SE-Sweden; SI-Slovenia; SK-Slovakia; UK-United Kingdom.

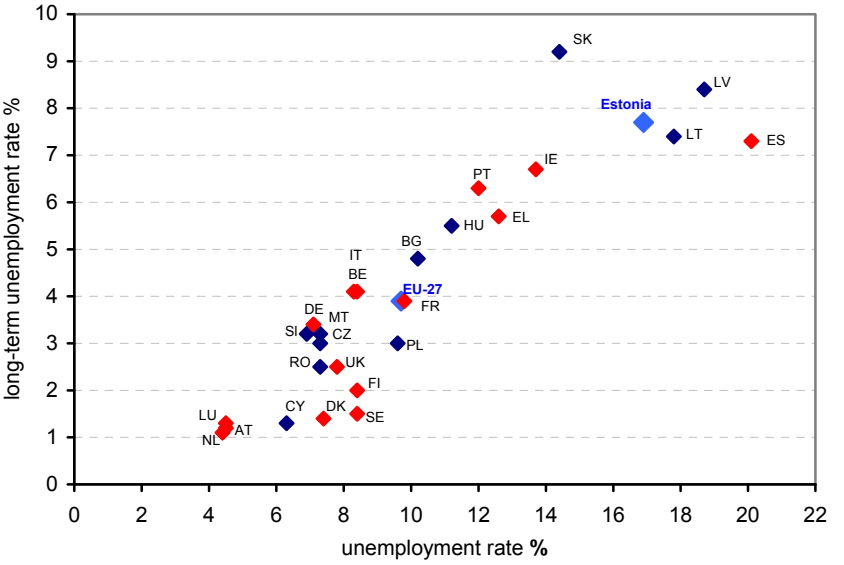

Figure 3. Unemployment and long-term unemployment rates in EU member states in 2010

Source: Eurostat database

4.2. General trends of unemployment in Estonian labour market

The Estonian labour market experienced great changes in the 1990s. After the restoration of independence in 1991, Estonia adopted a simple and very liberal framework for economic policy. In June 1992, Estonia was the first former Soviet Union country to introduce its own national currency. Macroeconomic reforms and structural changes significantly reduced the demand for labour. Open unemployment, practically non-existent before 1990, and dramatic declines in employment have emerged as two of the most critical outcomes of transition. Employment in Estonia fell substantially in the early years of the transition, in line with the contraction of economic activity. The unemployment rate grew in the years 1991–1995 from 1.5% to 9.7%. Primarily, it was the inefficient jobs that disappeared – mostly in industry and agriculture, where the number of employees was artificially high (Marksoo 2002). In the following three years, unemployment remained steady at around 10 percent. The next drastic decline in employment followed the economic crisis in Russia in 1998 and 1999, which caused the unemployment rate to increase to a record 14.6% by the beginning of the year 2000, when the number of unemployed exceeded 97,000.

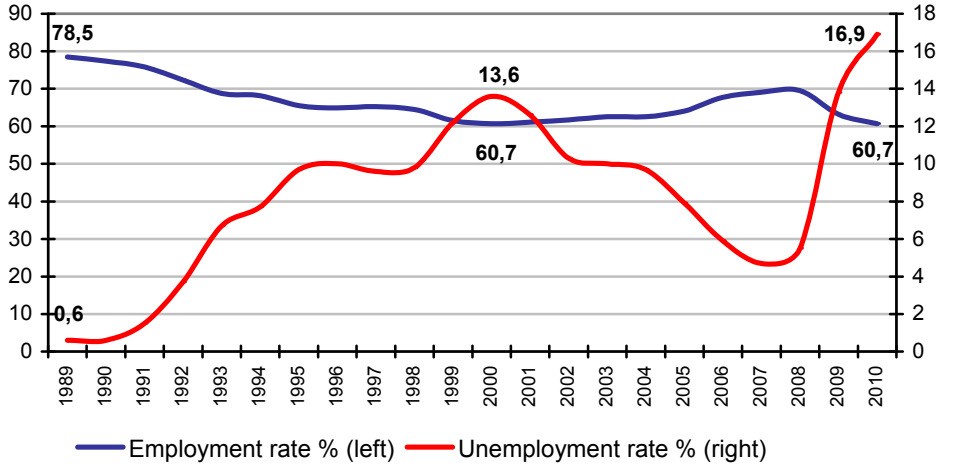

Figure 4. Employment and unemployment rates, 1989–2010

Source: Labour Force Survey, Statistics Estonia.

According to Eamets et al (2003) the Russian crisis caused a depression in the Estonian economy on the one hand, but it brought along a significant change in export destinations on the other. Eastward export flows (largely foodstuffs) declined drastically while exports to Finland and Sweden increased considerably.

The closing of the Russian market hit fishing, agriculture, manufacturing and construction the most severely. Little-productive blue-collar workers mostly suffered from declining demand.

In 2001, the number of unemployed started to decrease while the number of discouraged persons achieved its highest level. Likewise, the flow from unemployment to inactivity peaked in 2001/2002. We can assume that the Russian crisis caused workers' discouragement. By Rutkowski (2006) Estonia provides the most dramatic example of the change in the employment structure. The service sector expanded by 14 percentage points from 1990 through 2002, while agriculture and manufacturing contracted by 14 and 5 percentage points, respectively. Many people lost hope and became inactive, especially in rural areas where employment opportunities were minimal.

The sustained labour market recovery from 2001 onward can be attributed to favourable macroeconomic conditions. During 2000–2007 Estonia's real GDP grew faster than in most emerging market economies, peaking at 10.4% in 2006. Nonetheless regional disparities remained high, as some regions gained more than others from the recovery in growth. We can see a clear link between the growth of GDP and the fall of the unemployment rate, both short and long-term unemployment. The unemployment rate decreased to 4.7% by 2007 and the long-term unemployment rate to 2.3%.

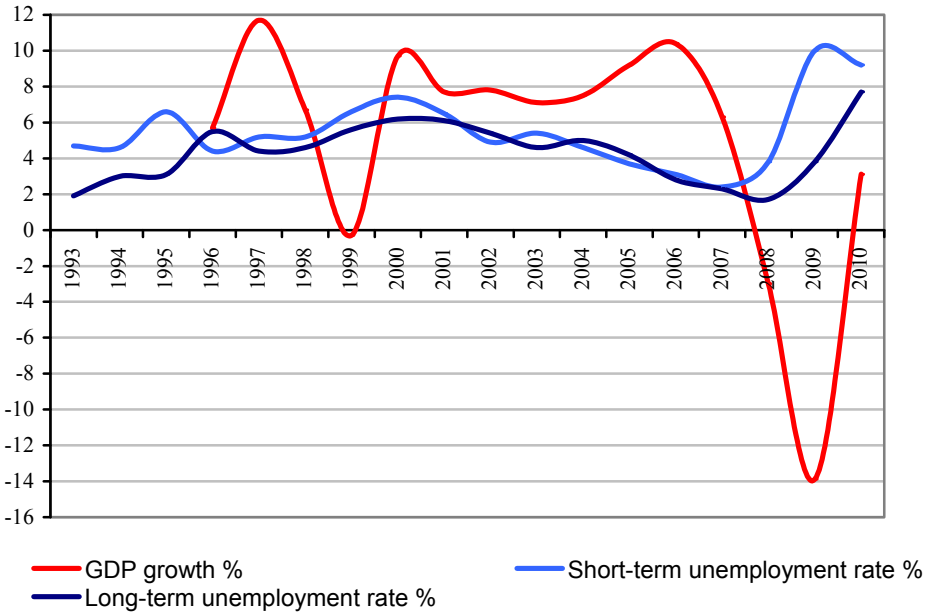

Figure 5. Dynamics of short and long-term unemployment rates, 1993–2010

Source: Labour Force Survey, Statistics Estonia

Although the first signs of economic downturn emerged in 2007, some employers were facing labour shortages even in the middle of 2008. The unemployment rate for the second quarter of 2008 was 4%, which is the record low level. The employment rate, which had been close to 70% in mid-2008, dropped below 59% by the beginning of 2010, reflecting in particular the strong adjustments in the construction sector and manufacturing, as well as in trade, transport and communication (Marksoo and Tammaru 2011). In the fourth quarter of 2008, the global financial turmoil started to have a significant impact on the labour market (Bank of Estonia 2009). The Estonian labour market reacted dramatically to the crisis. In two years the unemployment rate in Estonia increased sharply from 4.2% in the first quarter of 2008 to 19.8% in the first quarter of 2010. The economic slowdown has hit all regions and has strongly affected the regional distribution of unemployment. Inasmuch as North-Eastern Estonia's unemployment rate in relative terms grew more slowly than the other regions in this most recent period, a reduction of regional unemployment disparities was apparent by early 2009 (Marksoo et al 2010). The inequality in regional unemployment (NUTS-3 level) fell to its lowest of the whole post-communist period in 2009 (Meriküll 2011). Since the second quarter of 2010 the economic situation has started to show the first signs of improvement, which is why unemployment has begun to decrease in all regions except North-Eastern Estonia. Therefore, regional disparities had started to widen again. According to the 2010 labour force survey, there were 115,900 unemployed persons in Estonia and the unemployment rate was 16.9%. Even the registered unemployment, which is usually much lower than ILO unemployment, achieved its record level. The registered unemployed made up 75% of the total unemployed in 2010 (Figure 6).

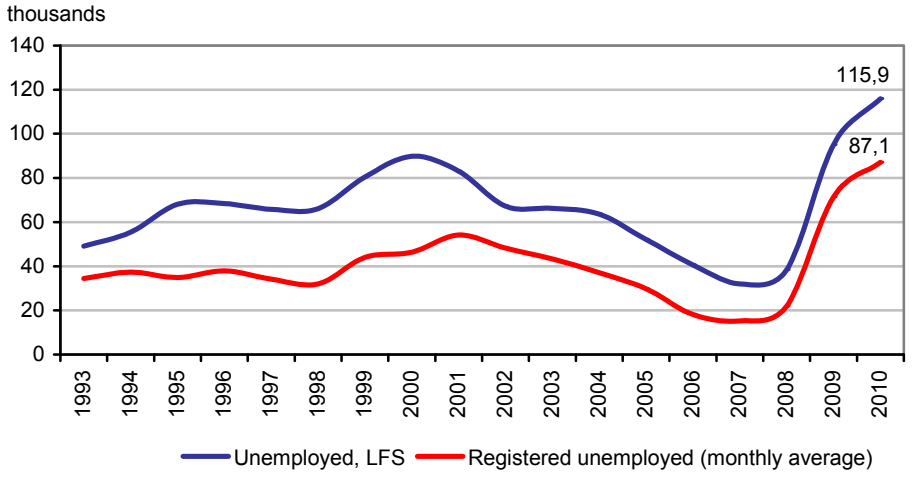

Figure 6. The number of unemployed by LFS and registered unemployed, 1993–2010, thousands
Source: Labour Force Survey, Statistics Estonia.

4.3. Long-term unemployment in Estonia

4.3.1. Formation and causes of long-term unemployment

In Estonia, similarly to other transition countries, the growing open unemployment at the beginning of the 1990s was accompanied by a growth of long-term unemployment (Marksoo 2007). The restructuring of the economy brought along the skills and regional mismatch with the consequence of laying a foundation for long-term unemployment in 1992. Structural unemployment resulting from a change in the demand structure for labour has been mentioned as the main reason for long-term unemployment in Estonia, causing a situation where the requirements of job vacancies do not match the qualifications of jobseekers (Venesaar and Hachey 1995; Eamets 2001; Venesaar and Luuk 2004; Venesaar et al 2004).

Long-term unemployment grew constantly from 1993 (Puur 1997), peaking in 2000 as a response to the Russian crisis in 1998 (Marksoo and Tammaru 2011). The number of long-term unemployed reached its highest level at 41,000 (Figure 7) and the long-term unemployment rate reached 6%.

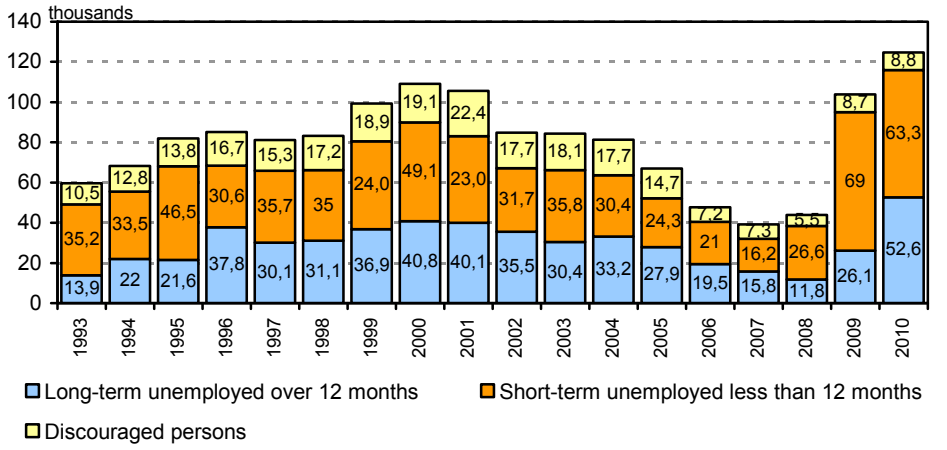

Figure 7. The number of long-term unemployed, short-term unemployed and discouraged persons, 1993–2010, thousands

Source: Labour Force Survey, Statistics Estonia

Since 2001 with the improving economic situation the number of long-term unemployed began to fall. There was an especially rapid decrease in long-term unemployment during 2005–2008, when the record-breaking economic growth, which entailed activation of entrepreneurship and the creation of new jobs, reduced the number of unemployed to the level of the beginning of the 1990s. A significant part was played by joining the European Union in 2004, which

extended the possibilities to seek a job in other countries. Possibilities for increasing the competitiveness of the unemployed, including the long-term unemployed, opened up as well, with the implementation of the European Social Fund (ESF) and the EQUAL programme. The heightened demand for labour also enabled participation in employment for risk groups, such as the long-term unemployed (Marksoo 2007). Additionally, the decrease of the number of discouraged persons by twice also shows that the employment increased on account of inactive people too. The last time unemployment and discouragement were at this low level was at the beginning of the nineties. Long-term unemployment decreased until the second quarter of 2008 when it affected 1.4% of the labour force, which was the lowest level since 1993. Only half a year later the respective number increased up to 3%.

The dramatic increase in unemployment at first had a stronger impact on the number of short-term unemployed than on the number of long-term unemployed. As pointed out by Meager and Evans (1998), there is a lag in the relationship between overall unemployment and long-term unemployment. When unemployment increases, the numbers of short-term unemployed increase rapidly, and this takes time to feed through into the numbers of long-term unemployed. Conversely, when the economy is recovering, overall unemployment may fall faster than long-term unemployment, because fewer new people are entering short-term unemployment. This was also the case in Estonia where the number of short-term unemployed grew rapidly in 2009 but the number of long-term unemployed only in 2010. Between the second quarters of 2008 and 2010 the number of long-term unemployed increased by 6 times. As a yearly average there were 52,600 long-term unemployed in 2010, which was the highest number in the last two decades. The long-term unemployment rate (7.7%) was two times higher than the average in the EU (3.8%).

In parallel with general unemployment and the long-term unemployment increase, registered unemployment also achieved its highest level. At the end of 2010 there were 65,260 registered unemployed, out of them 27,139 long-term unemployed. The registered long-term unemployment rate reached 4%.

4.3.2. Regional disparities in long-term unemployment

Even in a small country like Estonia there is strong evidence of a serious geographical mismatch common for other transition countries that are significantly larger in area (Kulikov 1999). Significant unemployment disparities in Estonia emerged early in the transition period, at the beginning of the 1990s. Geographically, growth in unemployment started in the eastern parts of Estonia bordering Russia, which were characterised by high employment rates in industry (north-east) and agriculture (south-east). Unemployment spread to central and western parts of the country over time, but remained lower there. The gap between the top and bottom levels of regional distribution of unemployment rates steadily widened. The period between 2001 and 2007 witnessed

steady economic growth. Unemployment began to decrease, but regional disparities remained. By 2008, the rates of unemployment ranged from 4 percent to 10 percent among regions and the long-term unemployment rate from 1% to 4%. During 2009 and the first half of 2010 unemployment increased sharply in all regions and regional disparities narrowed somewhat. In 2010 unemployment rates ranged from 14.5% to 25.8% and long-term unemployment rates from 6.7% to 12%. Differences started to widen in the second half of 2010 in parallel with economic improvement.

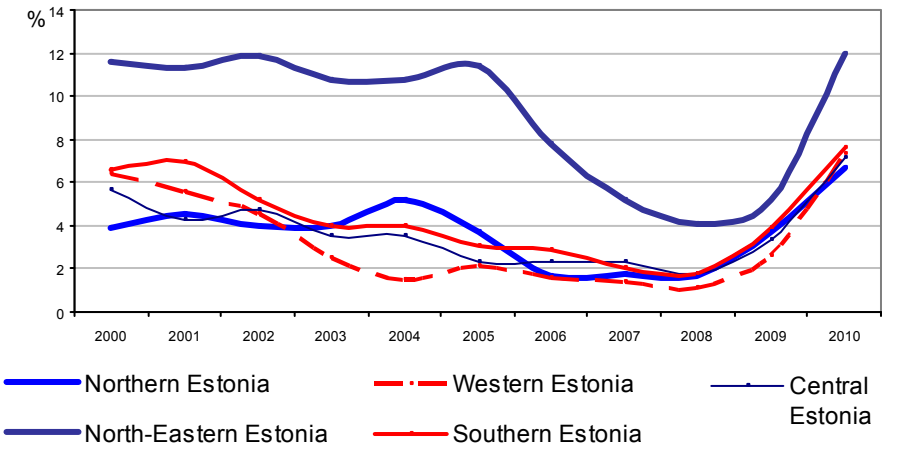

Figure 8. Long-term unemployment rates by regions, 2000–2010

Source: Labour Force Survey, Statistics Estonia.

The country's industrial North-Eastern and the formerly agricultural Southern regions sustained rapid increases in unemployment during the economic restructuring in the early 1990s. In particular, Southern Estonia experienced major layoffs when its agricultural sector, earmarked for the production and exporting of foodstuffs to the large Russian market, sustained a massive demand shock prompted by cessation of Russian food imports (Marksoo 2002; Marksoo et al 2010). Unemployment disparities between Southern Estonia and the country as a whole began to moderate somewhat after the mid-1990s, but high unemployment in North-Eastern Estonia persisted through the past decade (21.1 percent in 2000 and 25.8 percent in 2010). Conversely, Northern and Western Estonia have built close economic ties with neighbouring countries such as Finland and Sweden during the transition period, which has had a positive impact on their employment growth.

The five statistical regions of Estonia examined here exhibit wide variations in population size and composition, as well as labour market characteristics (see Table 1).

Northern Estonia (Harju County with the capital city Tallinn) is the most important economic centre of the country, accounting 39 percent of Estonia's population and 60 percent of its GDP. It is predominantly urban (84 percent), with a relatively large share of the ethnic minority population (40 percent of the total). Regional economic development has been strongly polarised to the territory around Tallinn. With its population of close to 400,000 the capital city is the heart of the country. As Tallinn attracts a considerable share of investments, it is likewise the destination of young and well-educated migrants from all over Estonia (Kontuly and Tammaru 2006). Therefore, Northern Estonia's population has a considerably above-average share of highly skilled and educated workers, and thus the wage level is considerably higher as well. Due to its diverse and vibrant labour market, the employment rate reached close to 76 percent in 2008, six percentage points higher than the Estonian average with most workers being employed in the service sector. This region's unemployment rate was low until the effects of the global economic downturn began to be felt (Marksoo et al 2010). During the years of economic bust (2008–2010) unemployment in Northern Estonia increased with the highest speed in comparison with other regions and also decreased with the highest speed at the beginning of 2011.

North-Eastern Estonia (Ida-Viru County) differs clearly from the country's other regions. Both ELFS and data on registered unemployment indicate that industrial North-Eastern Estonia, which had the highest employment rate in 1989 and the sharpest employment decline at the beginning of the 1990s, has had the highest and most persistent unemployment during the whole transition, while in other regions unemployment has decreased faster, leading to a shortage of workforce. Industrial enterprises established in North-Eastern Estonia within the framework of the Soviet economic policy, being oriented to the eastern market, either went bankrupt or were restructured in the course of transition. Although the economic recovery considerably lowered the unemployment rate in North-Eastern Estonia in 2005 and 2006, the lowest employment, low wages and two-fold higher unemployment (especially among ethnic minorities) characterise North-Eastern Estonia compared to other regions. It is the main industrial region where the Russian-speaking, Soviet-era immigrant population living mainly in urban areas is dominant; 48 percent of the employed people work in secondary sectors, and the share of ethnic minorities is 80 percent. The backbone of industry is formed by oil shale production and power engineering complex. The service sector is underdeveloped as is typical of the industrial regions in the formerly centrally planned countries in Europe (Scarpetta 1995). The main barriers to seeking and getting employment in North-Eastern Estonia are the low labour demand, the insufficient Estonian-speaking skills, mismatch of qualification for labour market demands and low spatial mobility. This region has the highest long-term unemployment.

Table 1. Main characteristics of NUTS-3 regions in 2010

	Total	Northern Estonia	Western Estonia	Central Estonia	North-Eastern Estonia	Southern Estonia
Population						
Total (thousands)	1 340,1	526,5	160,5	139,7	168,7	344,8
Men %	46.1	46.0	46.6	46.7	44.6	46.4
Female %	53.9	54.0	53.4	53.3	55.4	53.6
Age group %						
0–14	15.1	15.5	14.5	15.3	13.4	15.6
15–64	67.8	68.3	67.3	67.8	68.8	66.7
65+	17.1	16.2	18.1	16.9	17.8	17.7
Ethnicity %						
Estonians	68.8	59.9	90.7	89.6	19.6	88.0
Ethnic minorities	31.2	40.1	9.3	10.4	80.4	12.0
Place of residence %						
Urban	69.5	84.0	54.2	41.7	88.8	56.2
Rural	30.5	16.0	45.8	58.3	11.2	43.8
Education of labour force (ISCED level, %)						
I (primary and basic)	9.8	6.8	15.4	15.6	6.3	12.2
II (upper secondary)	54.9	50.4	59.3	56.1	64.1	55.8
III (tertiary)	35.3	42.8	25.3	28.4	29.5	32.0
Employment status						
Employed (thous)	570,9	248,3	65,9	57,9	61,0	137,8
Unemployed (thous)	115,9	48,2	11,2	10,8	21,2	24,6
Inactive (thous)	348,0	112,2	47,0	38,9	49,9	100,2
Labour market indicators						
Activity rate %	73.4	79.6	69.0	71.4	69.3	69.0
Employment rate %	60.7	66.3	58.6	59.9	51.1	58.4
Unemployment rate %	16.9	16.3	14.5	15.8	25.7	15.1
Long-term unemployment rate %	7.7	6.7	7.3	7.1	12.0	7.6
Share in total employment %	100.0	43.5	11.5	10.1	10.7	24.1
Change in employment 1989/2000, %	–31.7	–27.2	–29.4	–34.4	–44.4	–31.1
Change in employment 2000/2008, %	14.7	15.0	16.0	20.3	5.3	15.9
Change in employment 2008/2010, %	–13.0	–13.0	–14.7	12.0	–16.6	–11.0
Employment by sector of economy, %						
Primary	4.3	0.9	7.5	8.8	1.3	7.9
Secondary	30.5	25.9	32.0	32.5	48.1	29.4
Tertiary	65.3	73.2	60.5	58.7	50.6	62.7
Average wage (EUR per month)	792	886	673	628	660	690
Contribution of region to GDP, % (2008)	100.0	59.6	8.2	6.3	8.1	17.7

Source: Labour Force Survey, Statistics Estonia, authors' calculations

Central Estonia (Rapla, Järva and Lääne-Viru Counties) is the most agrarian region, with almost nine percent of the employed population engaged in the primary sector. It is the least populous of the five regions, but the age structure is relatively favourable due to high inward migration in the late Soviet period (Marksoo 2005). There are no large cities, Estonians comprise nearly 90 percent of the population, and the share of labour force with higher education is one of the lowest among the regions. Although the Central Estonia does not border foreign countries, its relative location is quite favourable since all three of its counties border Northern Estonia.

Western Estonia is made up of four counties: Saare (island), Hiiu (island), Lääne and Pärnu. This is the region with the lowest unemployment in Estonia. It is rural in character, with 46 percent of the people living in the countryside. As in Central Estonia, the percentage of ethnic Estonians is high and those with higher education low. Raagmaa (1996) has stressed that the change in Estonia's geopolitical situation provided new opportunities for ports, tourism, and other emerging activities in the Western coastal regions. During 2006–2008 there has been the highest increase in employment and economic activity if compared with other regions.

Figure 9. Long-term unemployment rates by regions, 2010

Source: Labour Force Survey, Statistics Estonia

Southern Estonia is the largest region by area, and second in terms of population. The region consists of six counties (Tartu, Jõgeva, Viljandi, Põlva, Võru and Valga), which makes the region quite heterogeneous: it includes both

the country's second largest city, Tartu, and many rural counties. The share of ethnic Estonians and those with higher education is relatively high. Agrarian Southern Estonia is the second region aside North-Eastern Estonia that experienced very high unemployment during the transition period and still has very high unemployment, especially long-term unemployment today. Unemployment rates in counties differ from 11 to 20% and the inactivity rate is one of the highest among the regions.

Urban-Rural Disparities

Previous studies show that urban-rural residence also explains unemployment (Huber 2007; Ferragina and Pastore 2008). The remote rural context appears to generate additional barriers to work for jobseekers, regardless of the duration of unemployment or personal employability assets (Lindsay et al 2003). Unemployment differences in urban and rural areas are not particularly large in Estonia, and the situation has reversed several times over the years. Until 2001, the unemployment rate and the long-term unemployment rate in rural areas were considerably higher than in cities and reached its maximum after the Russian economic crisis in 2000–2001. As mentioned by Eamets (2004) the total employment in agriculture dropped from 140,000 in 1989 to about 30,000 in 2001, which might explain increasing long-term unemployment in many Estonian rural areas. Unemployment in rural areas diminished drastically in 2002 when unemployment dropped below urban levels, but the situation reversed once again in 2006. Both the unemployment and long-term unemployment rates were slightly higher in rural areas in 2006–2008. During the economic recession, unemployment started to increase in urban areas with the long-term unemployment rate climbing higher compared to rural areas in 2009 and 2010.

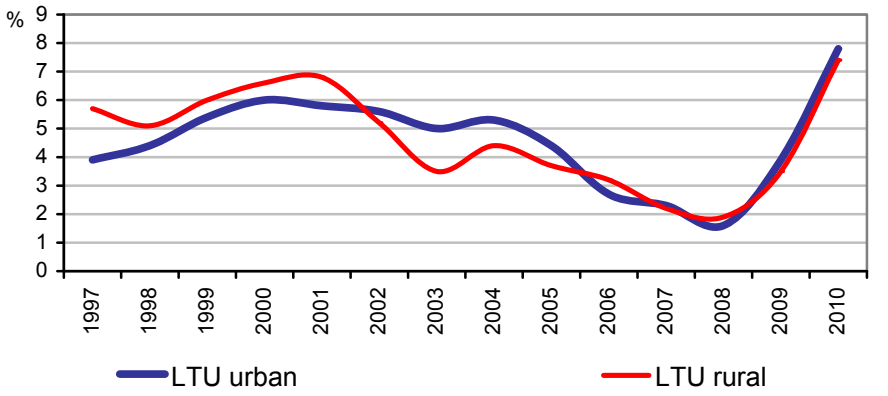

Figure 10. Long-term unemployment rates in urban and rural areas, 1997–2010

Source: Labour Force Survey, Statistics Estonia.

In rural areas, most of the long-term unemployed are Estonians (92% in 2010) and in urban areas non-Estonians (67%). As the non-Estonian long-term unemployed live mainly in cities (95%), long-term unemployment has mainly concentrated into two major urban areas: North-Eastern Estonia and Northern Estonia, including the capital city Tallinn.

It is assumed that many long-term unemployed people lost hope of getting a job, gave up jobseeking and therefore dropped into the category of discouraged persons. Part of the rural population abandoned jobseeking because of the absence of suitable vacancies. The poor arrangement of public transport and the lack of childcare facilities in rural areas were also obstacles to taking on a job.

During 2003–2008 the number of discouraged people also showed a downward trend similarly to the number of unemployed. Discouragement decreased the most during the high period of economic growth in 2006 in urban and rural areas alike but began to rise again in 2009. Moving from unemployment to inactivity was especially prevalent in the rural areas of Southern and Western Estonia.

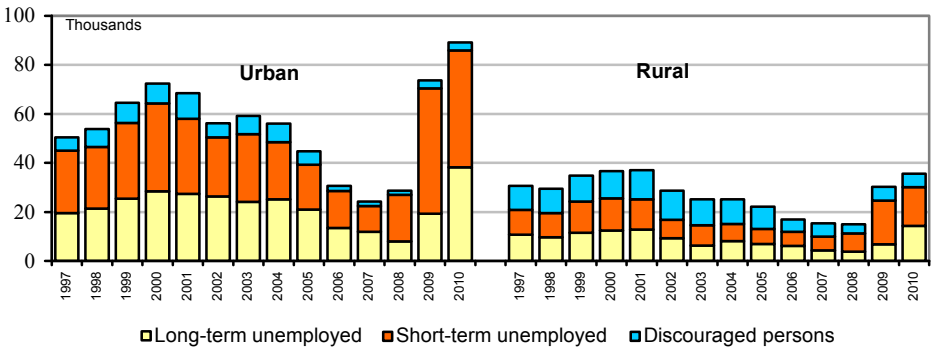

Figure 11. Long-term unemployed, short-term unemployed and discouraged persons in urban and rural areas, 1997–2010

Source: Labour Force Survey, Statistics Estonia.

4.3.3. Individual characteristics of long-term unemployed

Gender

Some people are much more likely to experience long-term unemployment than others. The role of the place of residence and personal characteristics such as education, age, gender and ethnicity may be substantial in prolonged unemployment spells (Collier 2005; Brown and Sessions 1997).

Labour market outcomes tend to differ significantly by gender. Men's unemployment and long-term unemployment rates have been higher than women's since unemployment emerged in Estonia at the beginning of the 1990s. This is contrary to most EU countries (OECD 2003; Marksoo 2007).

Taking a look at the trend line, we can observe that long-term unemployment increased equally among men and women up until 2000 and started to decrease thereafter with men having higher long-term unemployment rates than women at almost each point in time. In 2005, the long-term unemployment of men reached the same level as women, both in absolute figures and rates (Figure 12).

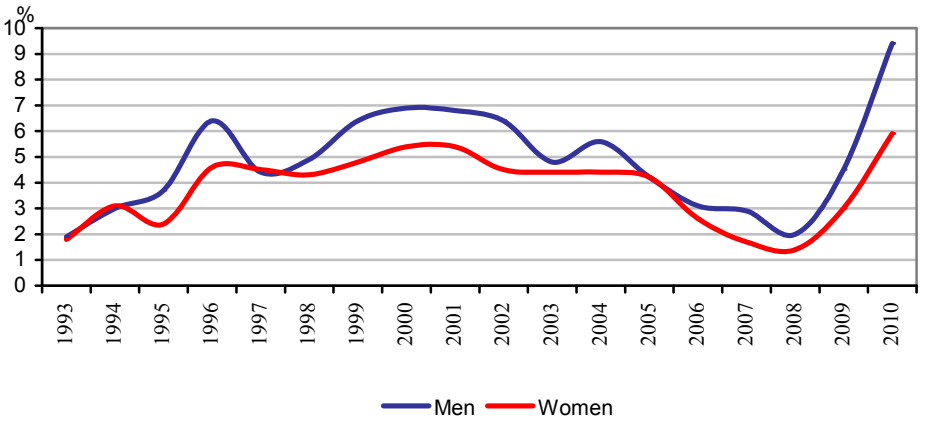

Figure 12. Long-term unemployment rates by gender, 1993–2010

Source: Labour Force Survey data, Statistics Estonia

Since 2005 the women's long-term unemployment rate has been falling faster and the gap widened again. The recent increase in the long-term unemployment rate at the beginning of 2009 has been driven mainly by the rise in the rate for men, while the rise for women has been more moderate. It appears, however, that the long-term unemployment of men tends to increase during the economic bust years. Men had much higher long-term unemployment rates at the end of the 1990s during the Russian crisis and the gender gap has widened again since 2009. It seems that jobs where men are overrepresented are more sensitive to economic cycles. For example, employment increased considerably in the construction sector during the years of the economic boom, and this sector has experienced the most significant job losses during the bust years. Of the 86,000 jobs lost in 2008–2010 around 60,000 were in the construction and manufacturing sectors. The long-term unemployment rate of men thus increased severely during the crisis in most of the EU countries and exceeded that of women (3.9% for men and 3.7% for women in 2010 for the EU-27).

Table 2. The long-term unemployed and the long-term unemployment incidence by sex, 1997–2010

	1997	2000	2002	2004	2005	2006	2007	2008	2009	2010
Total (thous)	30.1	40.8	35.5	33.2	27.9	19.5	15.8	11.8	26.1	52.6
Total %	100	100	100	100	100	100	100	100	100	100
Men	51	58	60	57	50	55	63	61	60	61
Women	49	42	40	43	50	45	37	40	40	39
LTU incidence, total, %	46	45	53	52	53	48	49	31	27	45
Men	44	47	59	54	48	51	53	36	27	48
Women	49	43	46	50	60	46	45	26	28	41

Source: Labour Force Survey, Statistics Estonia

Another important indicator beside the long-term unemployment rate is LTU incidence, and here a higher percentage of men can also be noted. There are more long-term unemployed among men than women. In 2010 41% of unemployed women were long-term unemployed; the respective percentage for men was 48%.

Age

There are significant differences in long-term unemployment between age groups. Younger workers typically face a higher incidence of unemployment than older workers but their jobseeking durations are, however, on average much shorter (Collier 2005). The long-term unemployed consider age as a substantial obstacle to getting work; this is particularly true for middle-aged and older jobseekers. Older workers becoming unemployed are more likely to remain long-term unemployed than younger workers, and in many countries the data suggest that older workers losing their jobs in traditional industrial sectors are particularly at risk of long-term unemployment (Meager and Evans 1998). Although the unemployment rate among young people is higher, employers tend to employ them more than older people, whose skills are often out of date and whose education does not comply with the demands of the contemporary labour market. In general, skills that older workers have are not useable for newly developing industries. In Estonia for the age group over 50, the LTU incidence was over 60% starting from 2002 and close to 70% in 2007, but decreased significantly thereafter in parallel with the economic downturn and increase of short-term unemployment. In 2010 the number of long-term unemployed doubled in the age groups 25–49 and 50–74 (Table 3).

Table 3. Long-term unemployed by age groups, 1997–2010, thousands

Age group	**1997**	**2000**	**2002**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
15–24	3.5	5.0	3.9	5.1	3.8	1.8	2.4	2.4	5.7	8.7
25–49	21.6	26.9	20.9	19.8	17.5	12.9	9.0	5.0	13.6	30.2
50–74	5.0	8.9	10.7	8.3	6.6	4.8	4.4	4.4	6.8	13.7
Total	30.1	40.8	35.5	33.2	27.9	19.5	15.8	11.8	26.1	52.6

Source: Labour Force Survey, Statistics Estonia

Young people have been among the first to feel the effects of the downturn. The youth unemployment rate in Estonia has been increasing since the third quarter of 2008, and strongly so in the first quarter of 2010, reaching 40.6%. The increases have been driven by a sharp rise in the unemployment rate for young men (up to 47%), which has been much faster rise than that of young women. The absolute number of young long-term unemployed increased less than that of older people, but the share of long-term unemployed among 15–24-year-olds has increased progressively over the last years and formed 37% of all unemployed in this age group in 2010. This implies that along with the increase of the long-term unemployment rate the relative position of young people on the labour market has also become worse (Marksoo and Tammaru 2011). Entry to the labour market for the relatively large cohorts born at the end of the 1980s and the very beginning of the 1990s has also contributed to high unemployment among youth (Masso and Krillo 2011). Less-skilled young as well as many young university graduates are having problems in finding a suitable job during the recession. This is one of the reasons for a steep rise of the long-term unemployment rate among youth to an extremely high level (13% in 2010) (Figure 13). As noted by the OECD (2011b) young people leaving school in the coming years are more likely to struggle to find work than previous generations.

The relative situation for people in the prime working age (25–49 years old) on the labour market has improved during the economic boom years and the long-term unemployment rate of this age group dropped to 1.2% in 2008. The situation changed with the crisis, and long-term unemployment has quickly grown among people in the prime working ages as well. In other words, the situation in Estonian families has become significantly worse during the period of economic decline (Marksoo and Tammaru 2011). However, there has been a change in the age structure of long-term unemployed during the last years and especially in 2010. Numerically the majority of long-term unemployed (57%) are still aged 25–49; in other words they are in the best working age, but their share of total long-term unemployed has decreased.

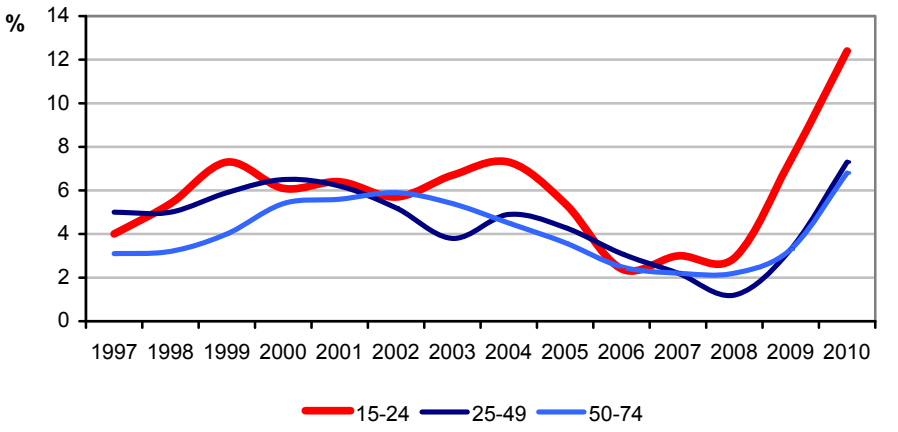

Figure 13. Long-term unemployment rates by age groups, 1997–2010

Source: Labour Force Survey data, Statistics Estonia

Ethnicity

With regard to individual characteristics, the most important differences run along ethnic lines (Marksoo and Tammaru 20XX). Unemployment among ethnic minorities is persistently higher than among Estonians (cf. Kasearu and Trumm 2008; Tammaru and Kulu 2003; Aasland and Fløtten 2001; Lindemann and Saar 2009). Higher unemployment among ethnic minorities is partly due to their geographic concentration and low spatial mobility (cf. Tammaru and Kulu 2003). Minorities live mainly in cities and are concentrated in two regions: the industrial North-Eastern Estonia region where 80% of the population are ethnic minorities, and the capital Tallinn (almost half of the population are ethnic minorities). In North-Eastern Estonia, a region that directly borders Russia, the major pre-transition employers were large industrial enterprises that experienced significant job losses both at the beginning of the transition period in the early 1990s and as a result of the Russian crises in the late 1990s. Therefore, the unemployment rate in North-Eastern Estonia has been higher than in other regions of the country for most of the last 20 years. Ethnic Estonians are overrepresented in the agricultural and service sectors. Job losses in agriculture at the beginning of the transition period hit Estonians harder, on the one hand, while on the other, they nevertheless did better during the transition period by being more successful in taking up service sector jobs (Tammaru and Kulu 2003). Ethnic minorities were also more strongly affected by the economic bust that began in 2008, since they were overrepresented in cyclical economic sectors such as construction. Thus, the unemployment rate of ethnic minorities (mostly Russians) peaked at 23% in 2010, while the same figure for Estonians was 13%. The duration of jobseeking has usually been much longer among

minorities than among Estonians and therefore, the long-term unemployment rates differ as well (6% for Estonians and 11% for ethnic minorities). It appears that the relative gap decreased somewhat during the recession due to the higher increase of unemployment among Estonians (Figure 14).

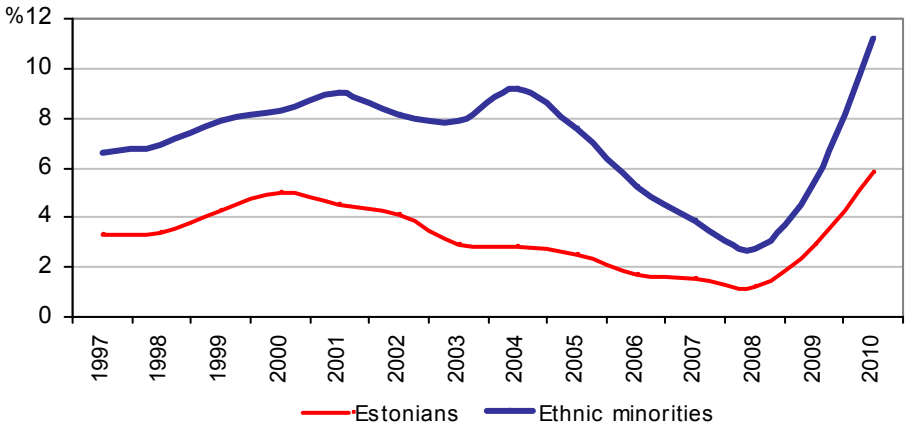

Figure 14. Long-term unemployment rates by ethnicity, 1997–2010

Source: Labour Force Survey, Statistics Estonia.

The share of ethnic minorities among the long-term unemployed was highest (over 60%) during the period of economic growth between 2004 and 2006. The difference was especially large among females in 2006 – the long-term unemployment rate of Estonians was down to just 1% while that of ethnic minorities remained close to the level of 6%. Figure 15 shows that Estonians give up searching for work in the case of losing work more often and become discouraged more than non-Estonians. This means that they fall out of the labour force, which is much more damaging to the labour market. While in 2010 Estonians made up 49% of the long-term unemployed, as many as 81% of the discouraged persons were Estonians.

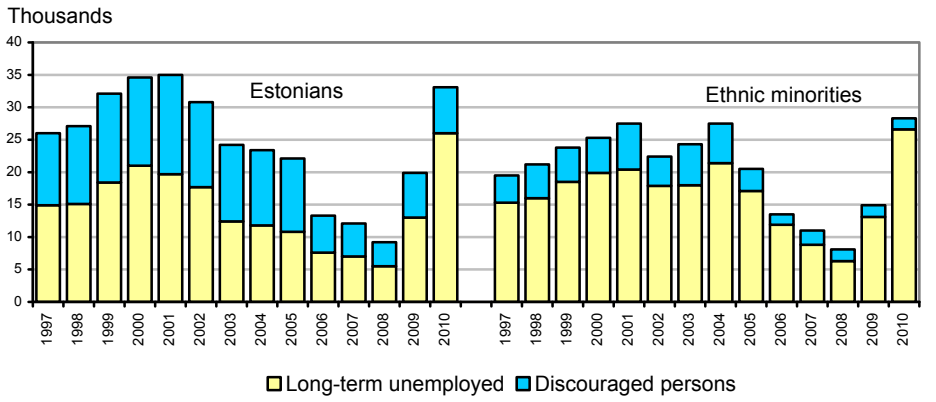

Figure 15. Long-term unemployed and discouraged persons by ethnicity, 1997–2010

Source: Labour Force Survey, Statistics Estonia

Educational Attainment

The level of education of the unemployed has an important impact on the duration of jobseeking. Individuals with a higher level of education and special skills search for work with greater intensity and are more attractive for employers and find suitable work over a shorter period of time. There is evidence to suggest that the long-term unemployed tend to have both relatively low educational attainment and insufficient skills (OECD 1988). Generally, the unemployment rate is higher the lower the educational level. Less skilled workers have lower chances of finding work, and accordingly face longer unemployment spells. As a result, they are disproportionately represented among the long-term unemployed. It is noteworthy that the unemployment rate for university-educated workers tends to be low even in high unemployment countries (Rutkowski 2006). Individuals with a higher level of education and special skills search for work more intensively, are more attractive for the employer and find suitable work more easily. Professionals with high qualifications are in great demand and thus their jobseeking duration is the shortest in comparison with other groups of the unemployed.

We find significant differences in short-term unemployed, long-term unemployed and the employed by education (Table 4). These data support the view that the unemployed, and especially the long-term unemployed, have significantly lower educational attainment than the employed. There are over two times more people with ISCED level I or primary education (20%) among the long-term unemployed than among the employed (8%). The respective figures for tertiary education (ISCED level III) are 16% and 39%. This indicates that a low level of education and the consequent lack of special skills and qualifications is the main barrier that prevents people from exiting unemployment.

Table 4. ISCED levels of education of the employed, short-term unemployed and long-term unemployed in 2006 and 2010, %

	Employed		Short-term unemployed		Long-term unemployed		Unemployment rate %		Long-term unemployment rate %	
	2006	2010	2006	2010	2006	2010	2006	2010	2006	2010
Primary	10	8	23	17	24	20	13	31	6	15
Secondary	55	53	53	61	62	64	6	19	3	9
Tertiary	35	39	23	22	13	16	3	9	1	4
Total	100	100	100	100	100	100	6	17	3	8

Source: Labour Force Survey data, Statistics Estonia

It follows from Figure 16 that the long-term unemployment rate for the highly educated has not changed much during the boom and bust years, while people with lower education were particularly hard hit during the current recession. Also Meriküll (2011) pointed out that the impact of human capital on labour mobility has become more important during the crisis. Individuals with higher education and with good Estonian language skills have exited unemployment more quickly during the recession (Meriküll 2011, p. 35).

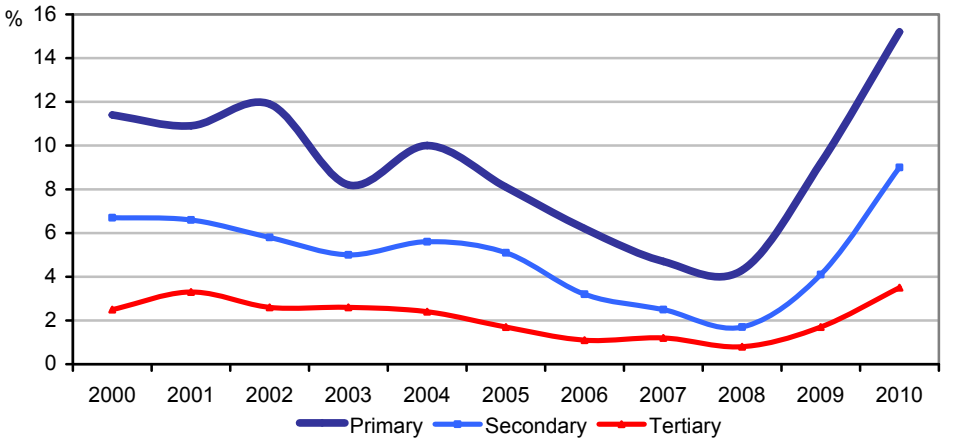

Figure 16. Long-term unemployment rates by ISCED levels of education, 2000–2010

Source: Labour Force Survey, Statistics Estonia

Economic recessions 2000 vs. 2010

Two crises have had a tremendous impact on the Estonian labour market. If we compare the structure of long-term unemployment in the periods of the Russian crisis and the current global economic crisis (Figures 17 and 18) we can make the following observations:

- There were more men than women among the long-term unemployed in both periods but the gender gap was bigger in 2010.
- There was a sharp rise of youth long-term unemployment in 2010 whereas in 2000 the age groups were divided more equally.
- Non-Estonians have always had a higher long-term unemployment rate but in 2010 the ethnicity gap was bigger.
- There is no big difference in place of living, but still, long-term unemployment was slightly higher in rural areas in 2000 (due to main employment reductions in agriculture) and urban areas in 2010 (due to main employment reductions in construction and manufacturing).
- The gap between long-term unemployed with primary and tertiary education was bigger in 2010. It shows that less educated people had more difficulties in entering employment during the last crisis.
- The highest long-term unemployment rate in both years has been in North-Eastern Estonia but the highest increase in Northern Estonia. In 2010 the regional differences were smaller as long-term unemployment has increased in all regions and with higher speed in other regions than in North-Eastern Estonia.

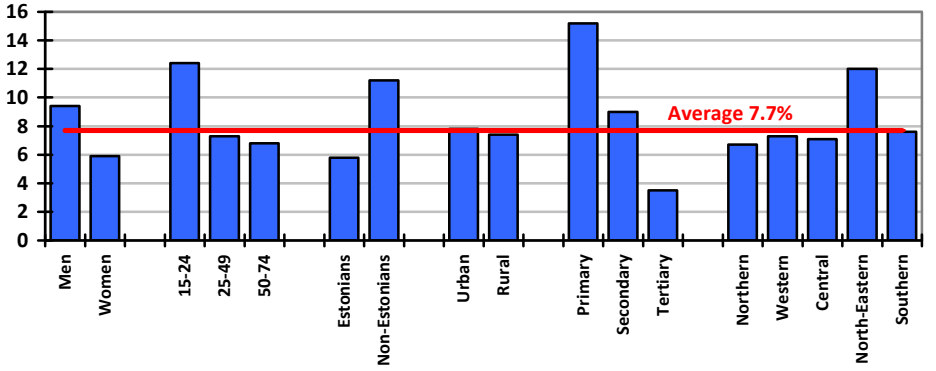

Figure 17. Long-term unemployment rates in 2010 by main individual and regional characteristics, %

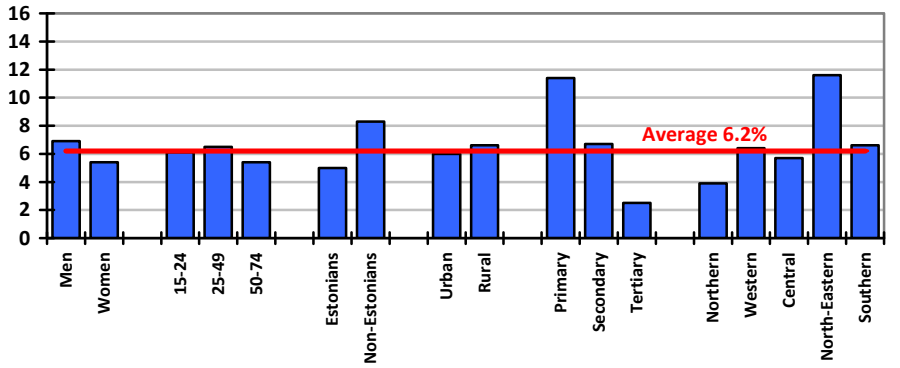

Figure 18. Long-term unemployment rates in 2000 by main individual and regional characteristics, %

Source: Labour Force Survey, Statistics Estonia

4.3.4. Active Labour Market Policy measures for long-term unemployed

Long-term unemployment is a demoralising experience for most people and tackling it is a top priority (Di Domenico and Spattini 2008, 99). Reducing the duration of periods of unemployment is a key element in many strategies to reduce overall unemployment (OECD 2002). Government labour market policy is usually characterised as passive or active. As a rule, income support (unemployment benefits, early retirement schemes) are understood as passive policies, while programmes directly stimulating job creation, promoting employment or improving the employability of jobseekers are classified as active (Heylen 1992; O'Leary et al 2001). Measures of the Active Labour Market Policy (ALMP) – such as training, wage subsidies, public employment measures, and job search assistance – are widely used in European countries to combat unemployment (Kluve et al 2007).

There is widespread consensus on the fact that a shift from passive to proactive schemes is necessary to boost the job finding rate and reduce the unemployment rate (Caroleo and Pastore 2007). As Boeri and Lehmann (1999) note, if skill mismatch is mainly responsible for low outflows from unemployment, then offering training and retraining courses to the unemployed might mitigate the problem. Fiscal incentives for hiring the long-term unemployed, on-the-job training and a number of other schemes are becoming more and more common all over Europe (Caroleo and Pastore 2007).

The key question is not which policies are most effective in stopping people becoming unemployed, but rather which are most effective in maintaining the 'employability' of the unemployed so that they are less likely to flow into long-term unemployment (Meager and Evans 1998). Therefore, active help for the

unemployed should be concentrated on the prevention of long-term unemployment. If we remove a newly unemployed person from unemployment, we are removing someone who on average would have left unemployment fairly soon anyway. Help should be concentrated on those at risk of long-term unemployment (Layard et al 2005, 64).

A range of actions to increase employability and access to labour market opportunities for the long-term unemployed has been designed, both on the demand and supply sides. Early intervention strategies, combined with active measures and combinations of labour flexibility and employment/social security seem to have a beneficial impact on long-term unemployment. While it may seem obvious that creating new jobs is the key to tackling long-term unemployment, there is no evidence that local job creation leads to a fall in long-term unemployment. This is due to the existence of barriers between the long-term unemployed and job opportunities (Di Domenico and Spattini 2008). As pointed out by the OECD (2011b) in the context of the limited public resources the focus should be, more than ever, on cost-effective measures that focus on the most vulnerable groups.

ALMP measures in Estonia

After the Russian economic crisis hit Estonia in 1998, the Ministry of Social Affairs initiated a pilot project to tackle long-term unemployment. Within the framework of the project, in eight counties centres to integrate long-term unemployed people into the labour market were established. Since October 2000, the new Labour Market Services Act has extended the circle of persons entitled to labour market services, including long-term unemployed persons. As employment offices started to offer services to the long-term unemployed as well, the activation centres were merged with employment offices (Marksoo 2007).

The most important policy development included the implementation of the new Labour Market Services and Benefits Act at the beginning of 2006. As a result, six new labour market services were added to the existing active labour market measures, four of which were directed primarily at the disabled unemployed. The 2006 Act brought about significant changes in the principles of provision of labour market services. The focus is on supplementary social services and benefits aimed at rehabilitating those excluded from the labour market. Following the European Union's employment strategy (Council of the European Union 2008), the implementation of the personalised approach to the long-term unemployed in Estonia is especially important in this Act (Marksoo and Tammaru 2011).

All services are offered on the basis of an individual jobseeking plan prepared in cooperation with the unemployed person and their personal consultant. For the long-term unemployed the most common services are public work, work exercise, wage subsidy and labour market training (Table 5).

Table 5. Number of participants in active labour market measures, 2006–2010

	2006	*2007*	*2008*	*2009*	*2010*
Labour market training	7,073	5,503	5,801	18,110	16,595
Community work/public work	170	231	592	1,577	1,342
Business start up grant	289	141	162	495	680
Wage subsidy to employer	238	127	116	194	10,897
Career counselling	8,356	8,272	12,046	23,785	18,256
Work exercise	446	1,208	862	1,528	1,004
Work practice	676	792	631	1,718	3,769
Measures for disabled people	109	60	46	18	21
Other measures			326	1,293	1,951
Total number of registered unemployed during the year	48,167	40,247	55,863	136,112	155,927
Total number of registered long-term unemployed during the year	20,578	15,241	18,785	39,032	66,919
The number of registered long-term unemployed at the end of the year	5,711	5,833	9,227	19,586	27,139

Source: Unemployment Insurance Fund

For increasing the efficiency of public employment services, an important labour market reform was accomplished in 2009. The activity of the Labour Market Board was terminated and the agency's functions of providing active labour market services were transferred to the Unemployment Insurance Fund, which had previously only dealt with administering unemployment insurance. The supervisory board of the new institution includes representatives of the employers' union, trade unions and the Government, which creates a good basis for implementation of employment policy (Estonian Government Office 2010). To tackle the impact of the recession, the conditions for wage subsidy measure were simplified in early 2010 and the financial means for the wage subsidy scheme increased considerably (Marksoo and Tammaru 2011). In 2010, wage subsidy agreements had been signed for placing 10,897 people. The recent changes have also focused on extending active labour market services such as retaining the employability of unemployed people by organising job clubs and offering opportunities for voluntary work.

As the long-term unemployed have not been working during the last 12 months, they do not receive unemployment benefits. But in case a long-term unemployed person participates in labour market training organised by the Unemployment Insurance Fund for at least forty hours, or either in work practice or in work exercise, they can get a labour market grant. Also transport and accommodation allowances are available for the long-term unemployed if they participate in labour market training or in work practice. Since 2007 all the registered unemployed have been covered by health insurance; this measure is

particularly important for ill-health unemployed. It is very important to stimulate people to register their unemployment status since only then will they be eligible for participating in the active labour market measures. According to the Estonian Labour Force Survey only 37% of the long-term unemployed were registered with the Unemployment Insurance Fund in 2009, and in 2010 the respective share increased to 50%. The main reasons why many unemployed do not officially register and seek a job on their own are the lack of vacancies offered by employment offices, skill mismatch between the unemployed and job offers and no right to unemployment allowance or insurance benefits. Training programmes for the unemployed are extremely important for tackling structural unemployment. To conclude, the government initiatives to tackle long-term unemployment have increased during the 2000s in Estonia on the one hand, but only about a half of the long-term unemployed can benefit from the available active labour market measures (Marksoo and Tammaru 2011).

4.4. Empirical findings of the studies

Four original publications were included in the current study. Next the results of the logistic regressions of the first three articles and the results of the fourth article are presented.

In the **first** article (Marksoo and Tammaru 2011) we compared the long-term unemployed with the short-term unemployed. We clarified the differences in the probability of being long-term unemployed in the peak of the economic boom (2006) and at the bottom of the economic bust (2009) as measured by GDP change. The results of the regression analysis enabled us to shed more light on the differences in long-term unemployment. It appeared that living in North-Eastern Estonia and in rural areas significantly raised the odds of remaining without a job for an extended period of time in 2006. The geographical differences in the probability to be long-term unemployed decreased significantly during the economic recession. Results on regional differences in long-term unemployment did not change after adding personal characteristics into the model. This implies that the geographic location plays an important but different role in long-term unemployment at times of the economic boom and economic bust, independent of the characteristics of the people living there. In terms of individual characteristics education is expectedly and linearly related to long-term unemployment. People with primary education had 2.5 times and people with secondary education had 2.2 times higher odds of remaining long-term unemployed compared to people with tertiary education in 2006. However, we observed a significant reduction of education differences in long-term unemployment in 2009; differences between tertiary and secondary education become insignificant and people with primary education had 1.6 times higher odds of being long-term unemployed than people with tertiary education in 2009. The narrowing of differences in long-term unemployment between the

boom and bust was observed for other population groups as well. Age-wise, a young age (less than 25 years) considerably reduced the likelihood of being without a job for a longer period of time in 2006 but this age effect was smaller in 2009. Although young people have a lower probability of being long-term unemployed than older people, we could observe that they had become worse off during the economic crisis as their probability of being long-term unemployed had increased by more than three times during the bust years. Gender differences were significant in 2006, but insignificant in 2009. Ethnic minorities were significantly worse off both at times of the economic boom and bust when we take into account both personal characteristics and residential context. It follows that ethnic differences are not only due to the concentration of members of the minority population into the region of the highest level of long-term unemployment (North-Eastern Estonia).

In the **second** article (Marksoo et al 2010) we determined whether east-west regional differences in unemployment increased as a result of the global financial crisis. We first studied the dispersion of regional unemployment rates by calculating the coefficient of variation and then applied binary logistic regression to 2006 and 2008 ELFS data to clarify whether the region of residence still impacted unemployment after allowing for differences in the personal characteristics of the population in each region. The results of the regression analysis highlight that the probability of being unemployed is considerably higher for residents of North-Eastern Estonia than of all other regions. Unemployment is also significantly higher in Southern Estonia. However, two important indicators of change emerged when other demographic and area characteristics were factored in: (1) regional unemployment disparities between North-Eastern and Western Estonia are reduced; and (2) differences between North-Eastern and Southern Estonia disappear. Thus, the initial differences among the regions were related in part to demographic differences. Nonetheless, region-specific disadvantages in North-Eastern and Southern Estonia persist, inasmuch as residents of these two eastern regions face a (statistically significant) higher probability of being unemployed than people living in the other regions of the country (even of the same age, gender, and educational level). More importantly, the east-west regional divide has persisted into the current global economic recession, even though the regional disparities in unemployment have narrowed and unemployment differences between the two eastern regions and Central Estonia have become statistically insignificant. Finally, a factor quite distinct in the Estonian context is the persistence of ethnic differences in unemployment (i.e. ethnic minorities are more likely to be unemployed).

In the **third** article (Marksoo and Tammaru 20XX) we clarified the role of region of residence and personal characteristics in the probability of being unemployed. The results of the logistic regression model confirmed previous findings: the probability of being unemployed is considerably higher for people living in North-Eastern Estonia compared to people living in all other regions.

We also observe that regional differences were smaller during the period of the economic bust (2009–2010) compared to the period of the economic boom (2006–2008). The level of unemployment was lowest in the western regions of Estonia during the years of the economic boom and highest in the eastern regions of the country. Regional disparities narrowed during the economic bust in 2009 in particular, but began to widen again in 2010 along with the first signs of general improvement in macroeconomic conditions. Regional differences in unemployment changed after personal variables were added to the models. First, the regional unemployment disparities became smaller between North-Eastern Estonia and other regions. Secondly, unemployment differences between the two eastern regions and Central Estonia became statistically insignificant in 2008 and 2010. Thirdly, in 2009, i.e. at the height of the economic bust, the probability of being unemployed was highest in Southern Estonia. Fourthly, living in Northern Estonia or the capital city region significantly lowered the probability of remaining unemployed, both at the height of the economic boom and during the economic bust. The east-west regional divide in unemployment was clearly evident during the economic boom, but disappeared with the economic bust. Thus, western parts of the country gain more from favourable macroeconomic conditions than eastern regions, bringing about a clear east-west divide. The results by individual variable were mainly as expected. First, unemployment among men rose much faster than among women due to lay-offs in construction and manufacturing as the recession took hold, so women's probability of becoming unemployed became significantly lower. Second, the level of education was the most important individual characteristic influencing unemployment: the higher the level of education of a person, the lower the likelihood of them becoming unemployed. Thus, people with primary education were more than three times as likely to lose their job as people with university education during the period of the economic boom, and more than four times as likely to do so during the period of the economic bust. Moreover, we found that there is an expected linear relationship between age and unemployment – younger people faced odds that are more than three times higher in terms of being unemployed than older people. The ethnic differences in unemployment were also as expected, since we found that members of the ethnic minority population were over two times more likely to be unemployed at times of both favourable and unfavourable economic conditions in Estonia.

The **fourth** article (Venesaar and Marksoo 2006) assessed the contribution of small and medium-sized enterprises in the regional economic development of Estonia, focusing on their potential for generating employment through firm formation and job creation. The analysis showed that firm formation and job creation rates vary considerably across counties. In the period of 1999–2003 firm formation activity has constantly increased its relevance in Tallinn's entrepreneurship sector. There was a difference of more than five times between Ida-Viru County, the county with the lowest figure, and Tallinn. Firm formation activity was above the country's average in Tallinn, Harju, Hiiu, Pärnu, Saare

and Tartu Counties and close to the country average in Rapla and Lääne-Viru Counties. The second group of counties with below-average firm formation rates includes the rest of eight counties (Ida-Viru, Jõgeva, Järva, Lääne, Põlva, Valga, Viljandi and Võru Counties). The grouping is also supported by the increase/decrease of the number of employees, whereas the number of employees increased in counties with higher firm formation rates and decreased in counties where it was below average. This rule does not apply for Valga or Võru Counties, where firm formation activity is below average, but where the number of employees has increased on account of bigger firms. Analysis indicated that counties with lower firm formation rates more frequently have lower employment and higher unemployment rates.

5. SUMMARY AND DISCUSSION

Persistently high unemployment, the long duration of unemployment periods and significant growth of regional labour market disparities were the unpredicted negative outcomes of transition. Although the emergence of unemployment was expected, its persistence has been a source of major concern (Rutkowski and Scarpetta 2005).

Long-term unemployment (unemployment over 12 months) is a serious problem because of economic and social costs, erosion of human capital and employability. It makes individuals increasingly unattractive to employers whereby the chances of finding a job decline as unemployment spells continue. However, some people tend to have higher probability to stay long-term unemployed than others; likewise, some regions have a higher share of long-term unemployed than others. Close to 53,000 persons were long-term unemployed in 2010 in Estonia, i.e. 45% of total unemployed.

The current study examined the formation, development and regional disparities of long-term unemployment in Estonia during the period of most of the last twenty years, since the beginning of the 1990s until 2010. Long-term unemployment started to rise in 1993, in parallel with open unemployment. It appeared that structural changes in the economy along with skill and location mismatches led to long durations of unemployment. We observed that during the investigated period there were three main turning points that caused the rise in overall unemployment: economic restructuring at the beginning of the 1990s, the Russian economic crisis in 1998–1999 and the ongoing global economic crisis that started to influence the labour market in 2008. The dramatic increase in unemployment at first had a stronger impact on the number of short-term unemployed as the growth of long-term unemployment followed with a time lag. Estonia had the sharpest increase in long-term unemployment among the member states in the EU. In 2010 the long-term unemployment rate in Estonia (7.7%) was two times higher than the average in the EU (3.8%).

In the years of the economic boom, long-term unemployment dropped to very low levels. Previous literature has shown that employment growth may reduce short-term unemployment more than long-term unemployment (Partridge and Rickman 1998; Layard et al 2005), as the long-term unemployed are not effective competitors in the labour market. Our results show that against the background of positive economic growth during 2004–2007, in addition to short-term unemployment, long-term unemployment as well as inactivity also decreased rapidly.

The aim of the study was to investigate the impact of region of residence and individual characteristics in the probability of being long-term unemployed, i.e. to find out what kind of people and regions are under the highest risk of falling into long-term unemployment. We analysed the Estonian Labour Force Survey data and examined the changes in trends and structure of long-term unemployment both during the economic boom and economic bust period. Differently

from previous studies in this field, long-term unemployment was analysed on the regional level, i.e. on five NUTS-3 level regions.

It appeared that socio-demographic characteristics and a person's region of residence are significant determinants of the chances of becoming unemployed. The results of the regression analysis that compared the characteristics of long-term unemployed with short-term unemployed during the years of the economic boom (2006 – biggest GDP growth) and bust (2009 – biggest GDP decrease) showed that the following groups were most likely long-term unemployed: ethnic minorities, older people over 50 years old and people with low educational attainment. A low level of education and the consequent lack of special skills and qualifications was the most important individual characteristic that prevents people from exiting unemployment. The long-term unemployment rate is higher the lower the educational level. People with lower education were particularly hard hit during the current recession. The long-term unemployment rate of ethnic minorities has been persistently higher than among Estonians as they are living mainly in industrial North-Eastern Estonia, where large enterprises have experienced significant structural changes. Those living in North-Eastern Estonia were also most likely long-term unemployed in 2006 after considering the impact of other personal characteristics. However, the results showed a narrowing of differences between regions and population groups during the economic recession compared to the economic boom. The economic slowdown thus had a stronger impact on previously more well-off regions (Northern and Western Estonia). Long-term unemployment has hit all regions and population groups, also those with good education and people living in a capital city area. Regarding gender, men's long-term unemployment rate has been higher than women's since unemployment emerged in Estonia, especially during the economic bust years.

In Estonia higher rates of unemployment and long-term unemployment persist in eastern regions (North-Eastern Estonia and Southern Estonia) despite almost two decades of transition, although disparities lessened during the economic crisis in 2009. In the years of the economic boom, the long-term unemployment rate in North-Eastern Estonia was 4–5 times higher than in the other regions. During the recession the overall level of the long-term unemployment rate increased in all regions (to 12% in North-Eastern Estonia and 7–8% in the other regions in 2010) and so the regional disparities significantly decreased, as it is quite common during times of economic busts.

The eastern regions were most closely bound by Soviet-era economic relations; industry in North-Eastern Estonia, where 80% of the population are ethnic minorities, and agriculture in Southern Estonia were oriented to a large extent toward producing for the Russian market during the Soviet period. The western parts (Western and Northern Estonia) gained significantly more from the economic boom than the eastern regions of the country. Northern Estonia, where the capital city is located, has the most diverse economic base. This

region has experienced one of the lowest unemployment and long-term unemployment rates during the boom years.

The higher the long-term unemployment, the harder it is to lower general unemployment both in the region and in the country as a whole. Identifying the role of geography and individual heterogeneity has important implications for policy. If the long unemployment spell is related to the demographic and personal characteristics of the unemployed, supply-side measures should be designed to increase the employability of the unemployed. Recognition that geography is important suggests that supply-side policies also need to be complemented with more demand-side policies, i.e. job creation (Collier 2005). As in Estonia both the individual characteristics of the unemployed and region of residence are important determinants in the probability of staying long-term unemployed, supply-side and demand-side measures should be implemented in reducing the duration of unemployment.

For participating in active labour market policy measures the long-term unemployed have to be registered at the Unemployment Insurance Fund. However, Labour Force Survey data indicate that only 50% of the long-term unemployed were registered in 2010. Hence, the state's task in curbing long-term unemployment is to motivate the long-term unemployed and also discouraged people to register at the Unemployment Insurance Fund to become eligible for suitable labour market services and to help them to return to the labour market. In order to achieve more balanced regional development, attention must be paid to the highest unemployment area, North-Eastern Estonia, where 47% of the unemployed have been seeking a job for over a year. The most important measures for the long-term unemployed would be guidance, training, work exercise, public work and subsidies for employers. There is no evidence that local job creation leads to a fall in long-term unemployment as there are barriers (skills mismatch) between the long-term unemployed and job opportunities (Di Domenico and Spattini 2008). However subsidies for employers are appropriate measures for recruiting long-term unemployed especially during recession periods. Special attention must be paid to young people, as youth long-term unemployment had a particularly rapid increase during the current recession, which is a serious social risk factor. The most at-risk are young men with low educational levels.

As the Labour Force Survey data do not allow for analysing long-term unemployment in detail on the county level, the further research could concentrate on registered long-term unemployment. Although registered data cover only part of the unemployed it would allow long-term unemployment to be analysed on a lower regional level and the efficiency of active labour market measures that have been offered for the long-term unemployed to be evaluated.

SUMMARY IN ESTONIAN

Pikaajaline töötus ja selle regionaalsed erinevused Eestis

Pikaajaline töötus on üks suuremaid sotsiaal-majanduslikke probleeme, millega puutuvad kokku paljud arenenud riigid. Pikka aega kestev töötus toob kaasa raskeid tagajärgi nii töötule endale, tema perekonnale kui kogu ühiskonnale. Vähenevad inimese kutseoskused, kaob tööharjumus, langeb enesehinnang ja tekib lootusetus tuleviku suhtes. Töise sissetuleku kadumine ja elatustaseme langemine suurendavad vaesusriski, mis omakorda viib tervise halvenemiseni ja stressini, halvenevad peresuhted, tekib sotsiaalne tõrjutus. Tööhõivevõime langus muudab töötu ebaatraktiivseks tööandjale, mistõttu tema töölesaamise võimalused kahanevad koos töötuse aja pikenemisega.

Pikaajalist töötust Eestis on vähe uuritud, eriti regionaalsest aspektist. Käesolevas doktoritöös analüüsitakse pikaajalise töötuse kujunemist ja selle struktuuri muutusi ligi kahe aastakümne jooksul. Seejuures analüüsitakse pikaajalist töötust ka regionaalselt, võttes aluseks viis regiooni: Põhja-, Lääne-, Kesk-, Kirde- ja Lõuna Eesti. Eesmärgiks oli uurida põhjalikumalt, mil määral mõjutavad isiku pikaajaliseks töötuks jäämise tõenäosust elukoht ja töötu sotsiaal-demograafilised tunnused. Peamised uurimisküsimused olid järgmised: kuidas on muutunud pikaajalise töötuse dünaamika ja struktuur Eestis alates taasiseseisvumisaja algusest kuni 2010. aastani, eriti majanduskasvu ja majanduslanguse perioodidel? Milliste sotsiaal-demograafiliste tunnustega ja millistes regioonides elavatel inimestel on suurem risk jääda pikaajaliseks töötuks? Metoodika aluseks on Rahvusvahelise Tööorganisatsiooni (ILO) väljatöötatud mõisted, mis tagavad rahvusvahelise võrreldavuse: *Pikaajalise töötu* all mõistetakse isikut, kes on olnud vähemalt 12 kuud ilma tööta, kes otsib tööd ja on valmis kahe nädala jooksul tööle asuma. *Heitunu* on isik, kes on ilma tööta, kes sooviks töötada, kuid on loobunud tööotsingutest, sest on kaotanud lootuse tööd leida. Sageli analüüsitakse heitunuid koos pikaajaliste töötutega, et saada laiaulatuslikum ülevaade pikka aega tööta olevatest inimestest. Regionaalne analüüs on tehtud NUTS-3 tasemel, kuna uuringu valim ei võimalda teha detailsemat analüüsi maakonna tasandil. Peamise andmeallikana on käesolevas uurimistöös kasutatud Statistikaameti Eesti tööjõu-uuringu mikroandmeid, mis võimaldavad saada pikaajalisest töötusest kõige terviklikuma pildi.

Analüüsist selgus, et pikaajalise töötuse tekkele Eestis viisid eelkõige struktuurimuutused majanduses, millega kaasnes kiire töökohtade kadumine ja töötuse kasv. Uued loodavad töökohad vajasid uute oskustega inimesi. Töötute oskuste mittevastavus tööturu nõuetele ja töökohtade regionaalse paiknemise mittevastavus tööjõu pakkumisele viisid tööotsingute kestuse pikenemisele ning struktuurse tööpuuduse tekkele. Vaadeldava perioodi jooksul võis täheldada kolme pöördepunkti, mis põhjustasid töötuse järsu tõusu: taasiseseisvumise järel majanduse restruktureerimisega seotud ümberkorraldused 1990. aastate alguses, Venemaa majanduskriis aastatel 1998–1999 ja ülemaailmne majanduskriis,

mille mõju tööturule hakkas avalduma 2008. aasta teisel poolel. Seevastu kiire majanduskasvu aastatel 2004–2007 vähenesid peale lühiajalise töötuse ka pikaajaline töötus ning mitteaktiivsus. Majandusbuumi aastatel langes pikaajaline töötus väga madalale tasemele, sest suure tööjõunõudluse ja tööjõu vähese pakkumise oludes õnnestus tööd leida ka tööturu riskigruppidel.

Seega toimusid Eesti tööturul lühikese aja jooksul pikaajalise töötuse dünaamikas väga suured muutused. Kõige raskemini mõjutas tööturgu 2008. aastal alanud majanduskriis. Kui kriisi algust iseloomustas kiire lühiajalise töötuse kasv, siis alates 2010. aastast hakkas tööjõu nõudluse madalseisu tõttu suurenema pikaajaline töötus. 2010. aastal oli Eestis rekordarv, ligi 53 000 pikaajalist töötut, s.o. 45% kõikidest töötutest. Pikaajalise töötuse määr ulatus 7,7%-ni, mis oli kaks korda kõrgem kui Euroopa Liidus keskmiselt (3,8%). Et nii ulatuslikust kriisist väljatulek toimub aeglaselt, prognoositakse pikaajalise töötuse kõrget taset ka lähiaastateks. Seetõttu on oluline uurida pikaajalise töötuse põhjuseid ja struktuuri, et osata ennetada ja leevendada pikaajalise töötuse tagajärgi.

Et välja selgitada, millistel isikutel ja millistes regioonides on suurem risk pikaajalise töötuse tekkeks, kasutasime logistilist regressiooni (Marksoo ja Tammaru 2011). Võrdlesime lühi- ja pikaajalisi töötuid ning aastaid 2006 (kõrgeim majanduskasv) ja 2009 (madalaim majanduskasv). Sotsiaal-demograafilistest tunnustest olid mudelis sugu, vanus, haridus ja rahvus. Analüüsi tulemused näitasid, et mitte-eestlastel, üle 50-aastastel ja madala haridustasemega isikutel on suurem šanss jääda pikaajaliseks töötuks nii majanduskasvu kui majanduslanguse perioodil. Seejuures oli elukoha regioon statistiliselt oluline ainult majanduskasvu aastal. Nendel, kes elasid Kirde-Eestis ja maapiirkondades, oli suurem risk jääda pikaajaliseks töötuks kui mujal Eesti regioonides. Selgus, et mõlemal uuritaval aastal oli madal haridustase kõige olulisem tunnus, mis takistab inimesel töötusest väljuda. Regresioonanalüüsi tulemused näitasid ka seda, et sotsiaal-demograafiliste tunnuste ja regioonidevahelised erinevused vähenesid majanduslanguse ajal, võrreldes majandusbuumiga, kuna töötuse järsk kasv hõlmas kõiki rahvastikugruppe ja regioone. Soolises võrdluses on meestel olnud alati suurem pikaajalise töötuse määr kui naistel, eriti majanduskriisi perioodidel. See näitab, et mehed töötavad enam sektorites (tööstus, ehitus), mis on tundlikumad majanduse tsükliliste kõikumiste suhtes.

Analüüsides elukoha regiooni ja individuaalsete tunnuste mõju riskile olla hõivatud või töötu, selgus, et regioonil on statistiliselt oluline mõju nii majanduskasvu kui -languse ajal. Regressioonanalüüs näitas, et inimestel, kes elavad idapoolsetes regioonides (Kirde-Eestis ja Lõuna-Eesti maakondades), on suurem šanss jääda töötuks ja seda ka siis, kui mudelisse lisada isikutunnused. Seega võisime täheldada riigi ida- ja läänepoolsete alade polariseerumist (Marksoo ja Tammaru 20XX). Töötuks jäämise risk oli suurem noortel, madala haridustasemega inimestel ja mitte-eestlastel, kelle elukoht on peamiselt Kirde- ja Põhja-Eestis. Eesti idapoolsetes regioonides on püsinud kõrgem (pikaajalise) töötuse määr juba ligemale paarkümmend aastat. Regioonide erinevused 2009. aastal küll vähenesid, kuid hakkasid uuesti suurenema 2010. aastal. Majandus-

buumi ajal oli pikaajalise töötuse määr Kirde-Eestis 4–5 korda suurem kui ülejäänud regioonides. Majanduslanguse ajal kasvas pikaajaline töötus kõigis regioonides (Kirde-Eestis kuni 12%-ni, ülejäänud regioonides 7–8%-ni) ja vahed muutusid oluliselt väiksemaks.

Idapoolsed regioonid (valdavalt venekeelse elanikkonnaga tööstuslik Kirde-Eesti ja põllumajanduslik Lõuna-Eesti) olid varem seotud tihedalt Venemaa turuga, mistõttu kannatasid struktuurimuutuste tõttu kõige rohkem. Läänepoolsed regioonid (Lääne- ja Põhja-Eesti) võitsid oma arengus majandusbuumi ajal rohkem kui idapoolsed regioonid. Kõige mitmekülgsem majandus ja haritum tööjõud on Põhja-Eestis. Selles piirkonnas oli majandusbuumi ajal madalaim töötuse ja pikaajalise töötuse tase, kuid majanduskriisi ajal elas Põhja-Eesti üle kiireima töötuse kasvu.

Mida kõrgem on pikaajalise töötuse määr, seda raskem on vähendada üldist töötust nii regioonis kui ka riigis tervikuna. Teadmine pikaajalise töötuse struktuuri ja regionaalse paiknemise kohta on oluline aktiivse tööturupoliitika meetmete väljatöötamisel. Kui töötuse pikk kestus tuleneb peamiselt isikuomadustest, tuleks parandada töötute konkurentsivõimet ja rakendada eelkõige tööjõu pakkumise poole meetmeid. Kui aga oluline on regiooni roll, tuleks pakkumismeetmete kõrval rakendada ka nõudluse poole meetmeid (Collier 2005). Kuna Eestis avaldavad pikaajaliseks töötuks jäämise riskile olulist mõju mõlemad – nii isiku sotsiaal-demograafilised tunnused kui elukoht, tuleks tööturupoliitikas rakendada töötuse kestuse vähendamiseks nii tööjõu pakkumise kui nõudluse poole meetmeid. Sobivamad meetmed pikaajalise töötuse vähendamiseks oleksid nõustamine, koolitus, tööharjutus, avalikud tööd ja palgatoetus tööandjale pikaajalise töötu töölevõtmiseks. On arvatud, et uute töökohtade loomine ei vähenda pikaajalist töötust (Di Domenico and Spattini 2008), kuid palgasubsiidiumid on eriti kriisiperioodidel olnud õigustatud.

Mida kauem on inimene tööta, seda suurem on oht, et ta loobub tööotsingutest üldse ja langeb tööturult välja. Heitunud inimeste tööturule tagasitoomine on aga tunduvalt raskem ja ühiskonnale kulukam. Et osaleda aktiivsetes tööturumeetmetes, peab pikaajaline töötu olema Töötukassas registreeritud. 2010. aastal oli tööjõu-uuringu andmetel ainult 50% pikaajalistest töötutest ennast ametlikult arvele võtnud. Seega, pikaajalise töötuse vähendamiseks tuleks motiveerida pikaajalisi töötuid ja heitunuid ennast Töötukassas registreerima, et nad saaksid osaleda tööturumeetmetes, suurendada oma konkurentsivõimet ja seeläbi tööturule kiiremini tagasi pöörduda. Tähelepanu tuleks pöörata eelkõige kõige kõrgema tööpuudusega piirkonnale Kirde-Eestile, kus 47% töötutest (2010. a.) on otsinud tööd kauem kui aasta, ja noortele, kelle tööotsingute kestus on viimase majanduskriisi ajal järsult pikenenud.

Kuna tööjõu-uuringute andmebaas ei võimalda valimi väiksuse tõttu detailset analüüsi maakonna tasandil, tuleks pikaajalise töötuse regionaalsel analüüsil edaspidi keskenduda registreeritud töötuse andmestikule. Samuti oleks vaja hinnata pikaajalistele töötutele pakutavate tööturumeetmete efektiivsust, et välja selgitada kõige tõhusamad meetmed, mis aitaksid töötuse kestust vähendada.

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PUBLICATIONS

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Nationality	Estonian
Date of birth	07 September 1956
Family	Married, two children

Education

2000–2009	Doctoral studies, Department of Geography, University of Tartu
2000	MSc in human geography, University of Tartu
1988–1992	Postgraduate studentship, University of Tartu
1974–1979	Diploma in economic geography, Tartu State University
1971–1974	Järvakandi Secondary School, with gold medal
1963–1971	Raikküla Basic School

Main fields of research

Labour market, unemployment, risk groups on labour market, regional unemployment disparities.

Training

2001	Accession-oriented Dutch European Proficiency Training (ADEPT) – Social Affairs/ Employment, Netherlands, Haag, Tilburg University
1995	Baltic Economic Management Training Program (BEMTP), Canada, Halifax, Dalhousie University
1994	Second International Training on Modern Labour Administration for Development – Central- and Eastern Europe, Cyprus

Languages

Estonian	Mother tongue
English	Very good
Russian, Finnish and German	Basic communication
French	Poor

Work experience

Since 1993–	Ministry of Social Affairs. Current position: adviser at the Labour Policy and Analysis Department
1992–1993	Ministry of Labour, chief specialist
1979–1992	Institute of Economics, Estonian Academy of Sciences, researcher

Memberships

2007–	Member of the Indicators subgroup of the Employment Committee at the European Commission
2003–	Member of the Employment Committee at the European Commission
2003–2009	Correspondent of the MISEP (Mutual Information System of Employment Policies) network at the European Employment Observatory
2003–2005	Member of the Employment Incentive Measures Committee at the European Commission
2001–2003	Member of the European Council's Committee of Experts on Promoting access to Employment.
1979–	Member of the Estonian Union of Geography

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Haridustee

2000–2009	Doktoriõpe, Geograafia osakond, Tartu Ülikool
2000	MSc inimgeograafias, Tartu Ülikool
1988–1992	Aspirantuur, Geograafia osakond, Tartu Ülikool
1974–1979	Diplom majandusgeograafias, Tartu Riiklik Ülikool
1971–1974	Järvakandi Keskkool, lõpetanud kuldmedaliga
1963–1971	Raikküla 8-klassiline Kool

Peamised uurimisvaldkonnad

Tööturg, tööpuudus, tööturu riskirühmad, regionaalsed erinevused tööturul.

Erialane täiendkoolitus

2001	Euroopa Liiduga ühinemisele suunatud täiendkoolitus sotsiaalpoliitika ja tööhõive valdkonnas (ADEPT), Madalmaad, Haag, Tilburgi Ülikool
1995	Majandusjuhtimise koolitusprogramm Balti riikide riigiametnikele (BEMTP), Kanada, Halifax, Dalhousie Ülikool
1994	Rahvusvahelise Tööorganisatsiooni (ILO) koolitusprogramm Kesk- ja Ida-Euroopa riigiametnikele teemal "Tööpoliitika juhtimise moderniseerimine", Küpros.

Keeleoskus

Eesti keel:	emakeel
Inglise keel:	väga hea
Vene, soome ja saksa keel:	suhtluskeel
Prantsuse keel:	nõrk

Töökogemus

1993–	Sotsiaalministeerium. Praegune ametikoht: Tööpoliitika info- ja analüüsi osakonna nõunik
1992–1993	Tööministeerium, peaspetsialist
1979–1992	Eesti Teaduste Akadeemia Majanduse Instituut, nooremteadur

Liikmelisus

2007–	Euroopa Komisjoni tööhõive komitee indikaatorite alamkomitee liige
2003–	Euroopa Komisjoni tööhõive komitee asendusliige
2003–2009	Euroopa Tööhõive Seirekeskuse MISEP *(Mutual Information System of Employment Policies)* võrgustiku korrespondent
2003–2005	Euroopa Komisjoni tööhõive edendamise meetmete komitee liige
2001–2003	Euroopa Nõukogu ekspertide komitee "Tööhõive soodustamine" liige
1979–	Eesti Geograafia Seltsi liige

LIST OF PUBLICATIONS

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DISSERTATIONES GEOGRAPHICAE UNIVERSITATIS TARTUENSIS

1. Вийви Руссак. Солнечная радиация в Тыравере. Тарту, 1991.
2. Urmas Peterson. Studies on Reflectance Factor Dynamics of Forest Communities in Estonia. Tartu, 1993.
3. Ülo Suursaar. Soome lahe avaosa ja Eesti rannikumere vee kvaliteedi analüüs. Tartu, 1993.
4. Kiira Aaviksoo. Application of Markov Models in Investigation of Vegetation and Land Use Dynamics in Estonian Mire Landscapes. Tartu, 1993.
5. Kjell Weppling. On the assessment of feasible liming strategies for acid sulphate waters in Finland. Tartu, 1997.
6. Hannes Palang. Landscape changes in Estonia: the past and the future. Tartu, 1998.
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