

## DELIVERABLE 3.2

### "Socio-economic, demographic, and agricultural patterns of rural areas in the new Member States"

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## Abstract

The Deliverable 3.2 of the SCARLED project investigates the structures and recent evolution of population, income, labour market and agriculture in rural areas of the new EU Member States (NMS) by means of cartographic and statistical analysis, based on the comprehensive NUTS3 (NUTS2) database compiled in Deliverable 3.1. It is intended to provide background information for subsequent SCARLED analyses which will research into structural changes in agriculture and rural livelihoods in several regions in more detail.

Based on the OECD classification, rural areas in the NMS encompass more than 90% of the NUTS3 regions with more than 80% of total population. In the NMS of Central and Eastern Europe (CEE), transition implicated increasing interregional disparities in income and employment, declassing many of the rural areas to looser regions with poor economic performance, high unemployment and population decrease, whereas large cities and their surrounding rural areas turned out to be the winners of transition. There are no indications that market forces will regulate these imbalances over time as originally supposed by the central governments. Although these tendencies are observable in all CEE countries, the dimensions of particular problems in rural areas are considerably varying within and across countries. Malta and Cyprus are in comparison with the CEE countries generally performing much better. This stresses the well-known issue that rural development measures have to be tailored to the specific regional conditions. This holds also for sectoral agricultural policies since the duality of the farm sector in CEE requires a differentiated policy support for structural adjustment.

## Executive Summary

Rural issues are of high significance in the New Member states (NMS) since more than 90% of the NUTS3 regions are rural with more than 80% of total population. However, this statement does not imply that these areas have homogenous characteristics and problems but that they are divers and manifold. Thus, the substantial inter- and intra-country differences very often do not allow identifying general trends of population, income, employment and agriculture in all rural areas of the NMS.

The demographic development in most rural areas of Central and Eastern Europe (CEE) is negative, while it is very positive (birth surplus and in-migration) in Malta and Cyprus. The majority of rural areas in CEE show declining population, natural population decrease and negative net-migration following the general trend. Fertility declined dramatically since 1990 in all CEE countries. During this process, the traditionally higher fertility rates of rural areas approached - and partly even fell under - that of urban areas. The degree of population decline is strongly varying across regions and regional differences seem to have increased between 1995 and 2005. Especially the rural areas in Bulgaria, Romania, and Eastern parts of Latvia and Lithuania witnessed an extremely high population decline between 2000 and 2005. Rural areas with positive population development are located around urban agglomerations - presumably due to immigration - as well as in parts of Poland and Slovakia caused by still positive natural population growth. In CEE, inter-regional migration is lower than in EU15 and has fallen during transition. Possible reasons for this phenomenon are a combination of liquidity constraints, housing market imperfections, low educational level, and poor employment opportunities of potential migrants. While detailed analysis of migratory flows is restricted by data constraints, literature indicates a tendency of migration from peripheral rural regions to the capital

regions or other agglomerations in CEE. However, for rather unskilled labour, it becomes increasingly difficult to migrate from rural to urban areas since the increasing costs of a permanent migration can not be compensated by the expected salary in the destination. Rural areas directly bordering large cities benefit from suburbanisation tendencies. So far, no counter-urbanisation is observable in CEE opposite to Western Europe. In some countries, there is evidence for a small migration stream from urban to remote rural areas during transition. These migrants seemed to be pushed by high living costs and unemployment in cities and pulled by social networks and possibilities of self-provisioning in villages. Age- and gender-differentiated migration can lead to skewed population structures in rural areas. Whereas a detailed analysis of rural age structures could not be carried out due to data limitations, it could be stated that the share of women is lower in rural than in urban areas. This indicates that women move more readily and earlier in the life cycle from villages to the cities.

Socio-economic patterns of CEE are characterised by increasing regional disparities in income and unemployment levels dividing regions roughly into two groups: a small group of rather well developed regions (mainly large cities and some of the Western border regions) and a larger group of poorer regions (including most of the rural areas). There is a clear urban-rural gradient within countries in the current level and recent development of per capita income, and unemployment. In particular, the finding of high unemployment rates of young people below 25 years is a very critical issue for rural areas. If young people see no future in their home villages they will more likely migrate away into cities or other countries and thereby reduce the future potential of the affected regions. Hopes that the regional labour market disparities in the CEE countries could diminish soon are rather bleak. Migration is too low to be able to balance regional disparities in income and unemployment. Wage flexibility is only slightly higher than in the rather inflexible EU15 countries. Finally, capital mobility seems presently to reinforce existing regional disparities rather than to reduce these and thus is unlikely to act as a substitute for low regional labour mobility. Investments go primarily to regions which are already performing better. This is particularly pronounced in the case of foreign direct investments (FDI), which are strongly concentrated in capital cities and other centres of economic activity as well as regions located closer to Western European borders. The sectoral structure of rural areas in the NMS is characterised by a high significance of agriculture and a still lower share of services in employment compared to the EU15. The share of agricultural employment increases with the degree of rurality in all countries. On average, it is 22.3% in predominantly rural (PR) regions, 13.3% in significantly rural (SR) regions and 1.5% in predominantly urban (PU) regions of the NMS. Regions with a high employment share in agriculture are located in Romania, Bulgaria, Poland and Lithuania, whereas Malta, the Czech Republic and Slovakia exhibit rather low shares. The employment share of services is significantly lower in rural than in urban areas in most countries. Presumably, on a local level the employment situation of rural areas is much more critical in view of a relatively low share of non-agricultural jobs. Socialist industrialisation took place mainly in urban centres of regions and a deconcentration in rural areas as in Western Europe could hardly be observed. The service sector was generally weak so that rural areas did not profit from it as well. Thus, new employment opportunities for rural areas are badly needed. However, there are no generally applicable answers for rural areas which form of diversification work well. Bottom-up approaches are meanwhile widely accepted and recommended to foster the establishment and start-up of new enterprises and entrepreneurial initiatives of rural population.

Due to its high significance, agriculture still plays an important role for the well-being of rural areas. In the CEE countries, the restructuring processes during transition have led to

a dramatic transformation of the agriculture since 1990. While agricultural employment decreased dramatically in the early 1990s in Hungary, the Czech Republic, Slovakia, and Estonia and less pronounced in Poland, it increased in Bulgaria, Romania, Slovenia, Latvia, and Lithuania, connected with the emergence of small (semi-subsistence) family farms through the land privatisation process. In CEE, there is now a dualistic structure of holdings with a small number of large enterprises cultivating a significant share of the agricultural area and producing much of the formally marketed production alongside a large number of rather small (semi-subsistence) farms. This situation requires a differentiated policy support for structural adjustment. Future reduction of agricultural employment can be expected. The analysis points to some hypotheses as to how these changes may occur. The predominance of family farms in most NMS (with the exception of the Czech Republic) means that intergenerational farm transfer is the most significant process in the structural adjustment of the agricultural labour force and involves complex decision making processes of farm households. The low proportion of young farm holders in most regions suggests that one of the main ways that adjustment occurs is by "non entry" into the sector by farm children and other young people especially into small farms. Moreover, the high share of holders above 65 years in many regions (particularly in Romania and Bulgaria, but rather not in Poland) shows that the issue of too many farmers could naturally "pass away" within a generation when older farmers retire provided their children do not take over the farm. However, because of a lack of opportunities or ability to work elsewhere in the economy, young people may be forced to enter the sector in many peripheral rural regions of the CEE countries. Another way of adjustment takes place is by combining part-time farming with non-farm employment, a very common phenomenon in the NMS (with the exception of the Czech Republic). Only 8% of the regular agricultural labour force (measured in persons) in the NMS work full-time, whereas one half works less than 25% of the time available for a full time worker. On-farm diversification is not yet that common in the NMS. The share of agricultural holdings with other gainful activity is rather low (5% in the NMS without Romania compared to 10% in the EU15) with the exception of Romania (22%). This holds also for agricultural holdings with tourism, on which many hopes have been pinned for the development of rural areas. On average, 0.2% of holdings in the NMS have diversified into tourism (compared with 2% in the EU15). Shares around 1% have Estonia, the Czech Republic, Slovenia, Latvia, and Masuria in Poland. Rural tourism has to be conceptualised very carefully under consideration of the necessary success factors. It is not suitable for every rural region. On-farm diversification can be an important contribution to reduce hidden unemployment in rural areas since it tends to absorb underemployed farm household labour rather than creating new jobs for non-family labour. Women are often key player in the development of new activities on the farm. In regions with a rather large-scale farm structure, further on-farm diversification is not very likely, since large farms do not need to diversify. Very small and poor farms often have not the necessary means to develop diversified activities like tourism. Rural development measures of the EU could provide positive stimuli for future growth there.

However, the development of sustainable rural labour markets and the reduction of agricultural 'over-employment' in the affected regions - particularly in the semi-subsistence sector - will probably need rather general programmes of vocational training, (regional) economic development, social security and housing policies which facilitate off-farm employment and professional migration, than most of the existing EU "rural development" measures, which however may play an important role in developing competitive holdings.

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## LIST OF ABBREVIATIONS

AWU	Annual Working Unit
CAP	Common agricultural policy
CEE	Central and Eastern Europe(an)
ESU	European Size Units
EU15	All EU countries before the enlargements 2004 and 2007
FDI	Foreign direct investments
FSS	Farm Structure Survey
GDP	Gross Domestic Product
LAU	Local Administrative Units
LFS	Labour Force Survey
NMS	New Member States
NUTS	Nomenclature des Unités Territoriales Statistiques
PPP	Purchasing Power Parities
PR	Predominantly rural
PU	Predominantly urban
SCARLED	Structural change in agriculture and rural livelihoods
SERA	Study on Employment in Rural Areas (see Copus et al. 2006)
SR	Significantly rural
TFR	Total fertility rate
WP	Workpackage

## 1 INTRODUCTION

Since 2004, eight Central and Eastern European (CEE) countries, Malta and Cyprus acceded to the EU, followed by Romania and Bulgaria in 2007. Thus, rural issues have become more prominent in the European Union (EU), because the share of rural regions and rural population in the New Member States (NMS) is much higher than in the EU15. Rural areas are confronted with manifold challenges. Besides problems, which are characteristic for many rural regions of the world, those in CEE have also had to cope with the transition from the socialist central planning system towards a democratic society and a market economy. This applies particularly for the agricultural sector, which had (and still has) in the NMS a much higher significance than in most countries of the EU15. Despite some common features, rural areas cannot be considered homogeneous. They have specific characteristics and needs, which can differ within a country and even more across countries. This Deliverable investigates the structures of population (chapter 2), socio-economic conditions (chapter 3), and agriculture (chapter 4) in rural areas of the NMS by means of cartographic and statistical analyses. The delimitation of rural areas is based on the OECD classification (Section 1.1), while maps and calculations are based on the comprehensive database completed in Deliverable 3.1 using Eurostat data (Section 1.2).

### 1.1 Definition of rural areas

Although the term "rural area" is frequently used in political as well as scientific discourses, there is no common definition. In addition, rural areas can cover regions with very different characteristics. In this report, the OECD definition of rural areas is used. It is well suitable for comparisons between countries and was already used in the "Study on Employment in Rural Areas" (SERA, see Copus et al. 2006) commissioned by DG Agriculture. The OECD methodology is based on population density. First, local units (e.g. municipalities) are identified as rural if their population density is below 150 inhabitants per km<sup>2</sup>. Second, regions (here at NUTS3 level<sup>2</sup>) are classified in one of the three categories (OECD 1994):

- Predominantly rural regions (PR): if more than 50% of the population is living in rural communes (with less than 150 inhabitants per km<sup>2</sup>),
- Significantly rural regions (SR): if 15% to 50% of the population is living in rural communes (with less than 150 inhabitants per km<sup>2</sup>), and
- Predominantly urban regions (PU): if less than 15% of the population is living in rural communes (with less than 150 inhabitants per km<sup>2</sup>).

In 2005, the OECD introduced some modifications in the second step of the classification (OECD 2005):

- If there is an urban centre with more than 200,000 inhabitants (in the EU) representing no less than 25% of the regional population in a "predominantly rural" region, it is re-classified as "significantly rural".

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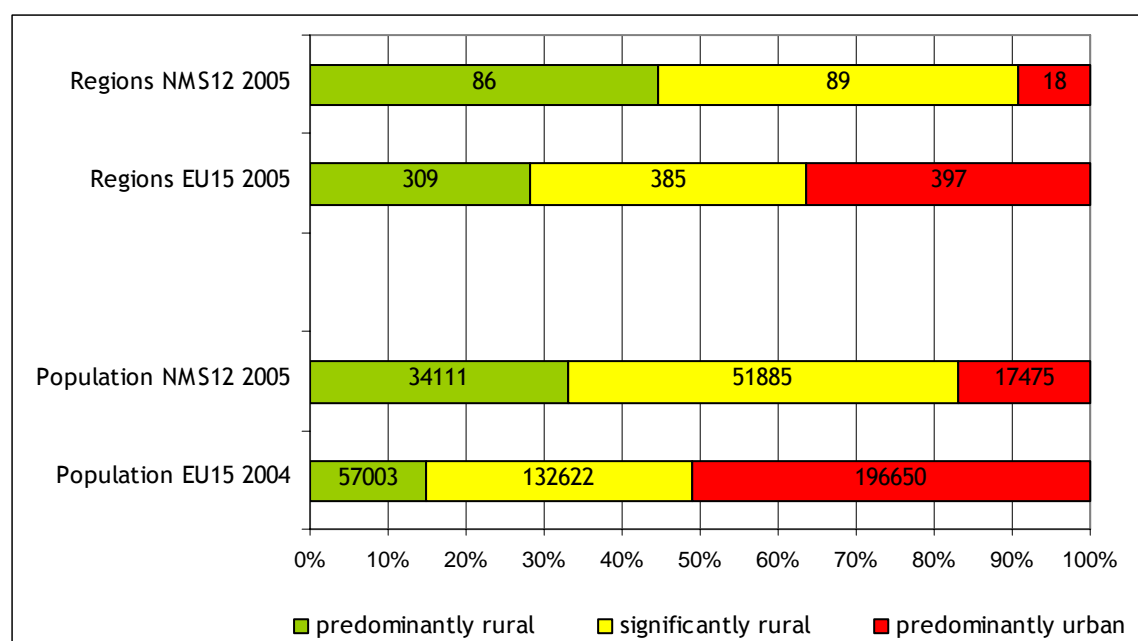
<sup>2</sup> NUTS = Nomenclature des Unités Territoriales Statistiques/Nomenclature of territorial units for statistics: NUTS0 and NUTS1 refer in the NMS to the whole country. The NUTS2 level represents in the NMS 55 administrative units each with approx. 800,000 to 3,000,000 inhabitants. The NUTS3 level encompasses in the NMS 193 regions each with approx. 150,000 to 800,000 inhabitants.

- If there is an urban centre with more than 500,000 inhabitants (in the EU) representing no less than 25% of the regional population in a "significantly rural" region, it is re-classified as "predominantly urban".

An urban centre in Europe is defined as a local administrative unit (LAU2, e.g. municipality) with a population density above 150 inhabitants per km<sup>2</sup> and total population above 200,000 inhabitants.

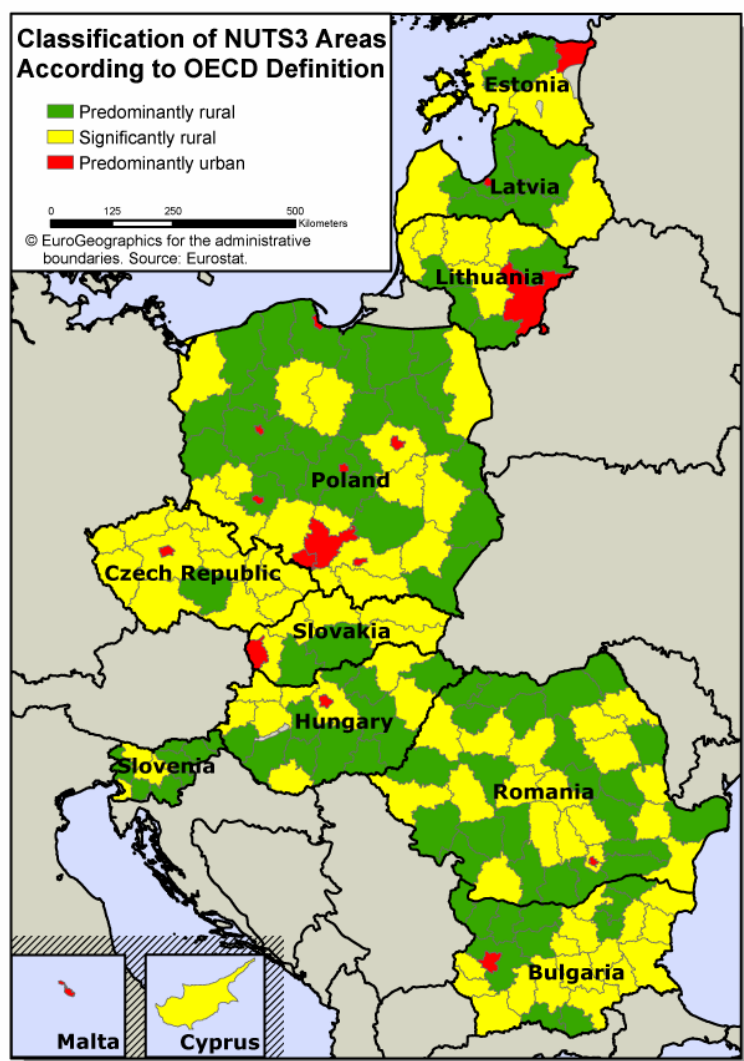
Applying the OECD definition of the NUTS3 regions in the NMS and the EU15 shows that the NMS are much more rural in terms of regions (91% compared to 64% in the EU15) and population (83% compared to 49% in the EU15) (see Figure 1.1). Classified as predominantly urban are nearly exclusively the capitals, with the exception of other large cities in Poland, Kirde-Eesti in North-Eastern Estonia and Malta (see Map 1.1).

Figure 1.1 Share of regions and population in rural and urban regions (OECD categories) in the NMS12 and EU15



Source: Author's calculation based on Eurostat Regio data (table reg\_d3avg)

Map 1.1 Classification of NUTS3 regions according to OECD definition



Source: Data provided by DG Agri, European Commission

## 1.2 Data sources

The analysis has been carried out on NUTS3 level wherever possible. However, some indicators are not available on this level in Eurostat so that NUTS2 or NUTS0 had to be used. All maps and calculations on NUTS3 or NUTS2 level in this report use the comprehensive database, which was completed in Deliverable 3.1. The source of data is exclusively the online database of Eurostat<sup>3</sup> and specified under the respective tables,

<sup>3</sup> Eurostat: Data navigation tree. [http://epp.eurostat.ec.europa.eu/portal/page?\\_pageid=1996,45323734&\\_dad=portal&\\_schema=PORTAL&screen=welcomeref&open=/&product=EU\\_MAIN\\_TREE&depth=1](http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=EU_MAIN_TREE&depth=1) (accessed March - December 2007).

figures or maps. Only in some inevitable cases, national data sources have been used to supplement the analyses. The selection of variables is generally based on that of the SERA project (see Copus et al. 2006). Analyses by OECD categories (PR, SR, and PU) have been carried out only for variables which are available at NUTS3 level. For agricultural indicators, no analyses by OECD categories have been done, since it seemed to be not reasonable to compare agriculture in rural areas with the insignificant agriculture of urban areas. While calculations for the OECD categories have solely used weighted averages, the averages and variation coefficients given in each map are unweighted. These are merely intended to give a quick overview of data structures.

Chapter 2 below describes the demographic patterns in the NMS. It is followed by an analysis of socio-economic patterns such as income distribution, unemployment and sectoral employment situation (Chapter 3). The agricultural patterns in the NMS are outlined in Chapter 4, which is followed by concluding remarks in Chapter 5.

## 2 DEMOGRAPHIC PATTERNS OF RURAL AREAS IN THE NEW MEMBER STATES

Differences in demographic structures between rural and urban regions have an important influence on the economic dynamics and growth of rural areas, as well as on living standards and the provision of social services. The population is a very important supply-side determinant of economic activity. The population change over time, which leads normally to changes in the structure and distribution of population, results from two processes: the natural population change (balance of births and deaths), and migration. This chapter will first show the general tendencies of population change in rural areas of the NMS and, second, analyse its two components: natural population change and migration. The chapter concludes with remarks about the resulting age and gender patterns in rural areas. The main demographic indicators used in this chapter are explained in Box 1.

### Box 1 Definitions of used demographic variables

**Natural population change (rate of natural increase):** The ratio of natural population increase (births minus deaths) over a period to the population at the beginning of that period expressed per 100 inhabitants (i.e. as percent).

**Crude birth rate (CBR):** Number of births per 1,000 inhabitants in a given year. The age distribution of the population can have a considerable effect on this rate.

**Crude death rate (CDR):** Number of deaths per 1,000 inhabitants in a given year. The age distribution of the population can have a considerable effect on this rate.

**Total fertility rate (TFR):** This indicator refers to the average number of children that would be born to a woman over her lifetime if she were to experience the exact current age-specific fertility rates. It is a synthetic rate, obtained by summing the age-specific fertility rates for women in their "child-bearing years" (15-45 or 15-49) in a given year; the number of women at each age is assumed to be the same. The total fertility rate is also used to indicate the replacement level fertility; in more developed countries, a rate of 2.1 is considered to be replacement level.

**Net migration rate:** The ratio of net migration in a certain time period to the average population in that time period expressed per 1,000 inhabitants. Since most countries either do not have accurate figures on immigration and emigration or have no figures at all, net migration is generally estimated on the basis of the difference between population change and natural increase between two dates (demographic equation), as done in this Deliverable.

**Age dependency ratio:** Ratio of the number of persons of an age when they are generally economically inactive (0-14 and aged 65 and over) to the number of persons of working age (from 15 to 64).

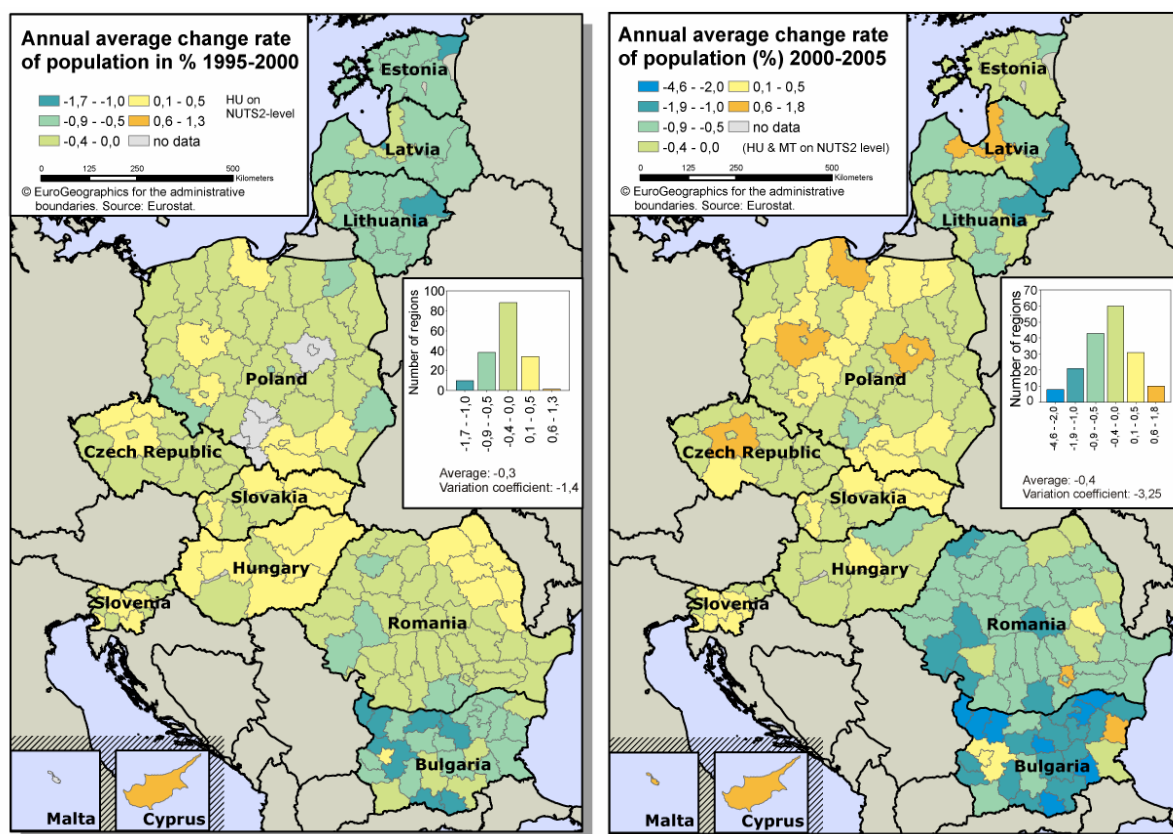
Sources: Haupt and Kane (1999), Kuls and Kemper (2000), Eurostat (2006)

## 2.1 Population change

Since 1990, all CEE countries experienced a decline in the population, which has been strongest in the Baltic States, Bulgaria and Romania. The main reasons are low fertility rates, high death rates and emigration (see Section 2.2 and 2.3). Periods of population increase at a national level could be only observed in Poland between 1990 and 1995, in Slovakia between 1995 and 2000 and Slovenia since 1995. Malta and Cyprus have both a strong growth of population.

The CEE regional patterns for the years 2000-2005 also mainly reveal regions with population decline varying from -0.01% in Karlovarský (Czech Republic) to -4.58% in Kardzhali (Bulgaria). Especially the rural areas in Bulgaria and Romania witnessed an extremely high population decline, which has increased between the periods 1995-2000 and 2000-2005, whereas the dramatic decline in the rural areas of the Baltic States has abated (see Map 2.1).

Map 2.1 Annual average change rate of population (%) in NUTS3 regions of the NMS, 1995-2000 and 2000-2005



Source: Author's calculation based on Eurostat Regio data (table reg\_d3avg)

Notes: Average and variation coefficient unweighted.

Between 1995 and 2005, the differences between rural areas in CEE seem to have increased. This can be clearly seen e.g. in Latvia. Over 1995-2000, all rural areas of Latvia exhibited a relatively equal population decline between -0.1 and -1.0. In 2000-2005, there



have been substantial variations between the surroundings of Riga (+0.6) and Latgale at the Eastern periphery (-1.2). Similarly, Poland had also been marked by a strong population growth in areas around big cities. Regions with positive population development between 2000 and 2005 are mainly located around the capitals and other big cities, presumably due to immigration (see Section 2.3). However, the capitals themselves have lost population, with the exception of Sofia in Bulgaria. The positive population development in some Polish and Slovak rural regions has been strongly influenced by *natural* population increase (see Section 2.2).

The analysis by OECD categories shows that the population change is on average in all rural areas of the CEE countries negative, following the overall trend (see Table 2.1). Exceptions are the rural areas in Poland and the SR areas in Slovakia and Slovenia. The average decline of rural population varies from -2.06% per year in Bulgarian PR regions to -0.02% per year in Slovenian PR regions. The comparison of rural with urban areas shows no consistent picture among the countries. In Bulgaria, Lithuania and Slovenia, the regional type with the severest negative population trend are PR regions, which have on average also the strongest *natural* population decline (see Table 2.2). In Estonia, Hungary<sup>4</sup>, Poland and Slovakia, the urban areas have the highest population decline connected with the lowest decrease or even increase of population in SR regions. In Romania and Latvia, the PR regions have the best population development within the country (in Latvia due to the PR region surrounding the capital Riga).

Table 2.1 Annual average change rate of population (%) by Member State and OECD categories, 2000-2005

	PR	SR	PU	All
Bulgaria	-2.06	-0.97	0.16	-1.08
Cyprus	...	1.77	...	1.77
Czech Republic	-0.41	-0.04	-0.13	-0.07
Estonia	-0.38	-0.28	-0.70	-0.34
Hungary	-0.42	-0.30	0.07	-0.24
Latvia	-0.17	-0.95	-0.85	-0.62
Lithuania	-0.73	-0.58	-0.12	-0.49
Malta	...	...	0.69	0.69
Poland	0.02	0.04	-0.31	-0.05
Romania	-0.67	-0.77	-0.75	-0.73
Slovakia	-0.16	0.07	-0.48	-0.05
Slovenia	-0.02	0.27	...	0.10
Total	-0.37	-0.28	-0.26	-0.31

Source: Author's calculation based on Eurostat Regio data (table reg\_d3avg)

Notes: Values for Hungary have been calculated with NUTS2 regions.  
... = this category does not exist in this country.

<sup>4</sup> The annual average change rate of the only Hungarian PU region on NUTS3 level, Budapest, was -0.75% for 2001-2005. For 2000, no NUTS3 values are available for Hungarian population, that's why the calculation of OECD categories for the tables has been done with NUTS2 values.

Thus the substantial inter- and intra-country differences do not allow for identifying a general demographic trend in all rural areas of CEE. This clearly indicates that each region has its own strengths and weaknesses in terms of socioeconomics. Depending on what objective the rural development policy in a NMS is, a strategy of 'one policy fits all' may not work. Policy makers are well advised to collaborate closely with stake holders in the rural regions to determine the objectives for the region and select the most appropriate policies within the national policy portfolio.

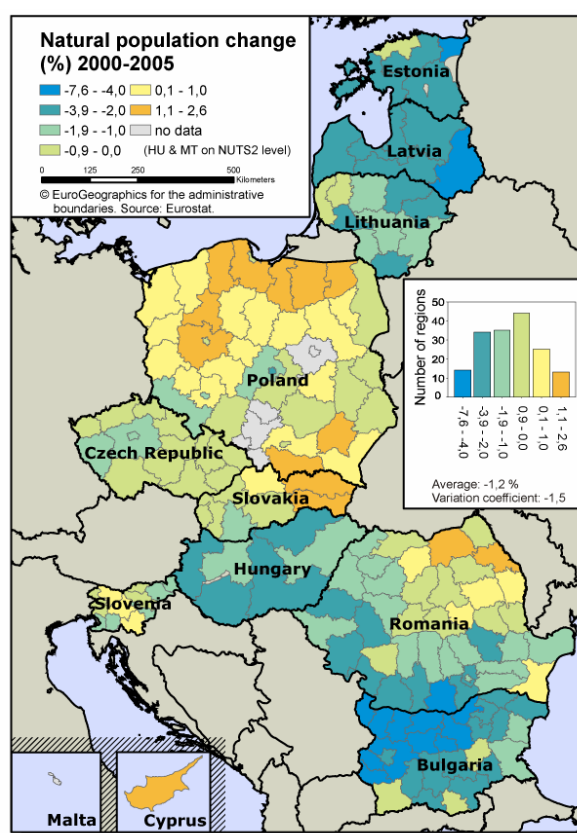
## 2.2 Natural population change

The natural population change is one component of the total population change. The rate of natural increase between 2000 and 2005 showed large regional differences varying from -7.64% in Vidin (Bulgaria) to +2.63% in Gdanski (Poland). The most negative rates have Bulgaria, the Baltic States, Hungary and the South-Western part of Romania. Natural population growth is exhibited by Cyprus, large parts of Poland, East Slovakia, North East Romania and Central Slovenia (see Map 2.2). These regions are mainly traditional high fertility regions (in Slovakia connected with high shares of catholic and Roma population), where the new reproductive behaviour of population (characterized by lower and later fertility, see below) set in more slowly. It can be expected that these regions will experience in future also natural population decline, since the total fertility rate (TFR) has fallen meantime below reproductive level also in these regions (Jurčová and Mészáros 2006; Data of the Central Statistical Office Poland; Cyprus cf. Figure 2.1).

There is no clear rural-urban pattern within the countries (see Table 2.2). For example in Bulgaria, Lithuania, Slovakia and Slovenia, the PR regions are the ones with the strongest natural population decline. However, in the Czech Republic, Hungary, Latvia and Poland, PR regions are the ones with the most favourite natural population change in the respective country.

The natural population change is the result of births minus deaths. A first impression of birth and death rates is given by the crude birth rate (CBR) and crude death rate (CDR), although both are highly influenced by the age structure (see Table 2.3 and Table 2.4). A high CBR means not necessarily a high number of children per woman but can result from a relatively young population with a high share of couples in the child-bearing age.

Map 2.2 Natural population change (%) in NUTS3 regions of the NMS, 2000-2005



Source: Author's calculation based on Eurostat Regio data (tables reg\_d3avg, reg\_d3natmo)

Notes: Average and variation coefficient unweighted.

**Table 2.2** Natural rate of population growth (%) by Member State and OECD categories, 2000-2005

	PR	SR	PU	All
Bulgaria	-4.38	-2.90	-2.07	-3.16
Cyprus	...	2.58	...	2.58
Czech Republic	-0.52	-0.75	-1.43	-0.81
Estonia	-2.40	-1.66	-4.23	-2.05
Hungary	-2.20	-2.24	-2.23	-2.21
Latvia	-2.48	-3.85	-2.94	-3.04
Lithuania	-2.50	-1.52	-1.35	-1.68
Malta	...	...	n.a.	n.a.
Poland	0.43	0.23	-0.59	-0.04
Romania	-1.34	-0.90	-1.70	-1.15
Slovakia	-1.25	0.72	-0.60	0.06
Slovenia	-0.84	0.42	...	-0.32
Total	-0.91	-0.72	-1.25	-0.94

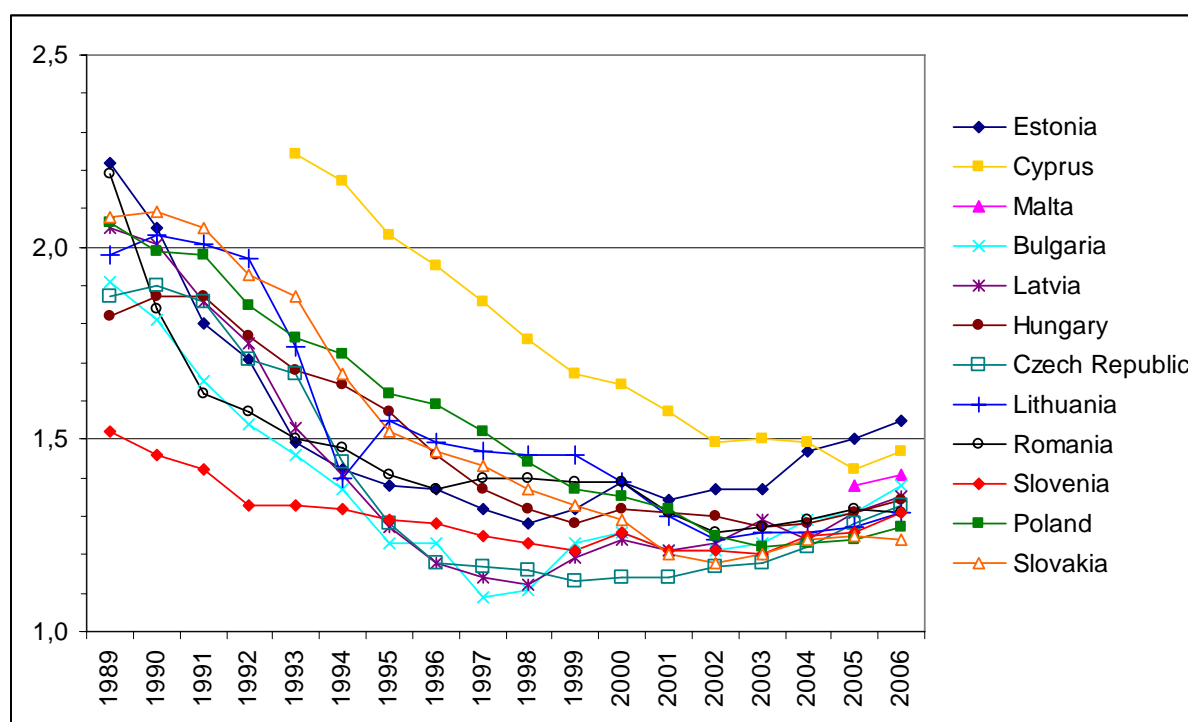
Source: Author's calculation based on Eurostat Regio data (tables reg\_d3natmo, reg\_d3avg)

Notes: Values for Hungary have been calculated with NUTS2 regions  
= this category does not exist for this country. n.a. = data not available

A better measure is the total fertility rate (TFR), indicating the average number of children that would be born to a woman over her lifetime if she were to experience the exact current age-specific fertility rates. However, data for the TFR are only available for the country level in Eurostat. The TFR in CEE has undergone a dramatic change since 1990 (see Figure 2.1). Until the late 1980s the fertility in CEE was relatively high and was characterised by early timing of childbearing, low levels of childlessness, high reliance on abortions, and relatively uniform fertility pathways. Within a decade, following the breakdown of the state-socialist systems, CEE has transformed from being the "high-fertility" region in Europe into the region with the lowest fertility rates in the world, at least when measured by the commonly used TFR (Sobotka 2004). The roots of the massive fertility changes in CEE are generally similar to those in other European regions. Theirs so-called second demographic transition started at different times since 1965 and was characterised by a decline of the TFR below the replacement level of 2.1 (Dorbritz 2000). In CEE, the second demographic transition was triggered by the dynamic social changes during transition, in particular, by massive education expansion, the opening of new opportunities for self-realisation, the rapid spread of the contraceptive pill, the culture of consumption, and the changing character of the family, as well as the intensifying conflict between employment career and parenthood. In Central Europe and, to a lesser extent, in the Baltic countries, the decline in the TFR has been dominantly driven by the massive postponement of childbearing. In Bulgaria and Romania, the progression rates to second birth declined considerably, resulting in a rapidly growing proportion of one-child families. An analysis of data on fertility, reproductive behaviour, family formation, and birth control further revealed rapidly growing differences within CEE. Despite the increasing diversity, most CEE countries have experienced a rapid shift toward the model of late timing of parenthood, higher childlessness, lower fertility quantum, and increased heterogeneity in family size and fertility timing, typical of other regions in Europe. Interestingly, fertility

postponement has been most pronounced in countries that have undergone the most successful economic and social transformation and which have moved most rapidly towards the institutional framework of the established market democracies in Europe. Coupled with the limited individual-level evidence of the prevalence of early childbearing among lower-educated and economically disadvantaged social groups, this finding challenges to some extent the widely accepted view of social and economic uncertainty as a catalyst of massive fertility postponement (Sobotka 2004).

Figure 2.1 Total fertility rate by country, 1989-2006



Source: Eurostat data (table demo\_find). Bulgaria 2006: National Statistical Institute of Bulgaria ([www.nsi.bg](http://www.nsi.bg)). Latvia 1995 and 2004: Latvia Statistics (<http://data.csb.gov.lv>). Lithuania 1996 and 2001: Statistics Lithuania ([www.stat.gov.lt](http://www.stat.gov.lt)). Poland 1989-1994: Central Statistical Office Poland ([www.stat.gov.pl](http://www.stat.gov.pl)).

Since TFR data are not available at a regional level in Eurostat, the analysis of the specifically *rural* situation is difficult. Traditionally, birth rates tend to be higher in rural areas than in urban centres. Data for Poland show that the 1989 TFR of rural areas was by 0.7 higher than in urban areas. During transition, the TFR decreased in rural as well as in urban areas, while slightly converging. In 1999, the TFR of rural areas was only by 0.4 higher than in cities (Frątczak and Ptak-Chmielewska 2001). However, the analysis of CBR and CDR by OECD categories reveals large differences between countries (see Table 2.3 and Table 2.4). In one half of CEE countries, the CBR is highest in rural areas (PR and SR) corresponding to the traditional image; in the other half CBR is highest in urban areas. This indicates that in some countries the converging trend between the fertility of rural and urban areas already results in a reversal of the traditional order between the PU, SR and PR region groups (cf. also Copus et al. 2006).

**Table 2.3** Crude birth rate by Member State and OECD categories, 2005

	PR	SR	PU	All
Bulgaria	8.4	9.4	9.9	9.2
Cyprus	...	10.8	...	10.8
Czech Republic	10.0	10.0	10.1	10.0
Estonia	9.9	11.0	9.2	10.7
Hungary	9.3	9.9	9.4	9.7
Latvia	9.6	8.8	9.7	9.3
Lithuania	8.6	9.0	9.4	8.9
Malta	...	...	9.7	9.7
Poland	10.2	9.6	8.6	9.6
Romania	10.3	10.2	9.6	10.2
Slovakia	9.1	10.6	9.8	10.1
Slovenia	8.8	9.6	...	9.1
Total	9.9	9.9	9.1	9.8

Source: Author's calculation based on Eurostat Regio data (table reg\_d3natmo)

Notes: ... = this category does not exist for this country

**Table 2.4** Crude death rate by Member State and OECD categories, 2005

	PR	SR	PU	All
Bulgaria	16.8	14.4	12.7	14.7
Cyprus	...	7.2	...	7.2
Czech Republic	10.4	10.6	10.8	10.5
Estonia	14.1	12.4	15.6	12.9
Hungary	13.8	12.8	13.8	13.5
Latvia	13.6	15.9	13.4	14.3
Lithuania	14.7	12.6	11.9	12.8
Malta	...	...	7.7	7.7
Poland	9.6	9.4	10.1	9.7
Romania	12.8	11.7	11.5	12.1
Slovakia	11.1	9.5	9.8	9.9
Slovenia	10.0	8.5	...	9.4
Total	11.7	11.0	11.1	11.2

Source: Author's calculation based on Eurostat Regio data (table reg\_d3natmo)

Notes: ... = this category does not exist for this country

## 2.3 Migration

Migratory movements are the second component of the total population change. However, availability of data is very limited not allowing detailed regional analysis. Most countries either do not have accurate figures on immigration and emigration or have no figures at all so that net migration is generally estimated on the basis of the difference between total

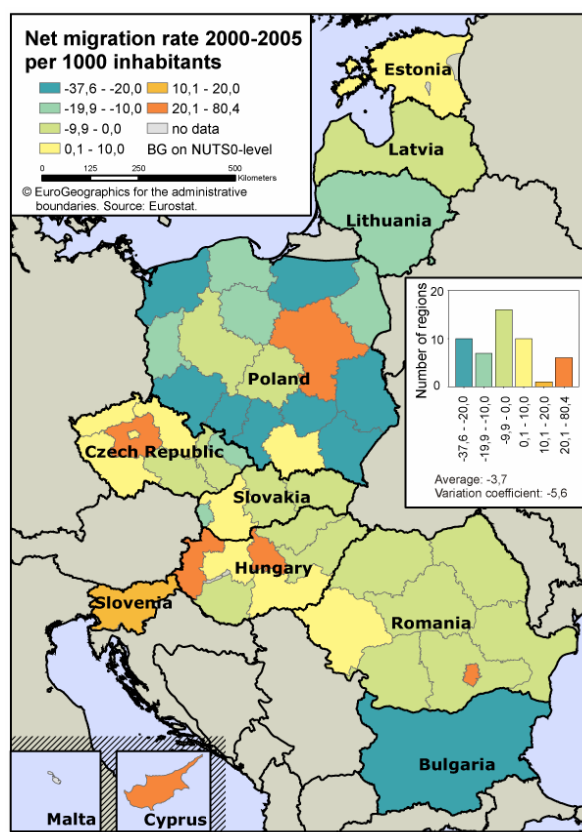


population change and natural increase. This could be done only at NUTS2 level since data for population at the first of January are only available at NUTS2 level in Eurostat. The interpretation of the resulting figures is difficult enough. Net migration is the balance between two flows (in and out). In any individual region, the in and out flows are likely to be driven by two different spatial processes, a centripetal one (urbanisation) and a centrifugal one (sub-urbanisation and/or counter-urbanisation), each of which are age selective in their effects. Additionally, the inter-regional flows within countries may be overlain by international flows. The only way to satisfactorily separate these different processes would be through an analysis of full in-out migration matrices. Unfortunately the available data do not allow for this (Copus et al. 2006).

Generally, in most transition economies (with the exception of the Baltic States and Romania) inter-regional migration is lower than in EU15 labour markets and has fallen during transition. Possible reasons for this phenomenon are a combination of liquidity constraints, housing market imperfections, low educational level, and poor employment opportunities of potential migrants (Fidrmuc 2004, Huber 2007). A look at the regional net migration rate reveals a negative rate in the majority of NMS regions. This is most pronounced in Bulgaria, Lithuania, and parts of Poland. Regions with a strong positive net migration rate are Cyprus, Slovenia and the capital regions of Poland, the Czech Republic, Hungary and Romania (see Map 2.3). Revealing migration patterns between rural and urban areas requires analyses at the local level. Since such analyses cannot be done in the course of this Deliverable, some evidence is extracted from secondary literature.

In CEE, there is generally a detectable tendency for people to migrate away from peripheral rural regions to the capital regions or other urban agglomerations (e.g., in Bulgaria, Hungary, Lithuania, Poland, Romania, Slovakia, and Slovenia). Rural communes around the capitals and other large cities are increasingly gaining population due to the emerging suburbanisation tendencies. Some of the cities experience already net losses of population to the suburbs (e.g., in the Czech Republic and Hungary) and others still net gains of population (e.g. in Poland). To sum up, with the exception of communes surrounding urban agglomerations, rural areas in CEE are dominated by negative net migration. Nevertheless, in some countries, there is evidence for a smaller migration stream

Map 2.3 Net migration rate per 1000 inhabitants in NUTS2 regions of the NMS, 2000-2005



Source: Author's calculation based on Eurostat Regio data (tables reg\_d2jan, reg\_d3natmo, reg\_d3avg).

Note: Average and variation coefficient unweighted.

towards remote villages in the rural periphery during transition (e.g., in Hungary, Poland and Romania). There exist no data about the structure of these in-migrants in rural areas. Yet, it is beyond doubt that many of them have been steered to rural villages by the social network resources of kin and community, possibilities of self-provisioning and prospects of acquiring land. They were partly pushed out of the cities by high urban unemployment, high costs of living or personal failure in finding a job (see Table 2.5) (Brown and Schafft 2002, Kupiszewski 2005, European Commission, Network 2004). Due to the relatively high shifting costs, it becomes thus increasingly difficult to migrate from rural to urban areas for unskilled labour. In Poland for example, two processes have been reported in the 1990s: the increasing difference between the salaries of highly skilled and unskilled labour and growing prices of urban accommodation. "These two factors combined together, resulted in the increase of the cost of a permanent migration from rural to urban areas, making the expected increase in salaries in the destination not compensation for the increased costs of living" (Kupiszewski 2005, p.8). Presumably, mainly the young and able are moving away from rural areas. This assumption can be partly supported by high age dependency ratios in rural areas (European Commission, Network 2004). The processes of counter-urbanisation, i.e. the migration away from cities and its suburbs to the nearby countryside resulting in rising rural populations in many parts of Western Europe from the 1960s and 1970s, have not yet been reported for the CEE countries (Kontuly 1998). The same holds for the associated urban-rural manufacturing shift providing new non-agricultural jobs in rural areas, which began in the USA in the 1970s and continued in Western Europe (Bański 2004).

Table 2.5 "Push" and "pull" factors associated with internal migration in Hungary since 1990

	Urban regions	Rural regions
Pull	<ul style="list-style-type: none"> <li>Opportunities in new services industries</li> <li>Opportunities for managerial upper class</li> <li>New housing in the suburbs</li> </ul>	<ul style="list-style-type: none"> <li>Informal economic opportunities</li> <li>Lower cost of living, and opportunities for self-provisioning</li> <li>Greater housing availability</li> <li>Pre-existing kinship and community social network ties in rural areas</li> </ul>
Push	<ul style="list-style-type: none"> <li>Industrial downsizing</li> <li>High cost of living, including housing costs</li> <li>Housing shortages</li> </ul>	<ul style="list-style-type: none"> <li>Agricultural restructuring</li> <li>Limited formal employment opportunities</li> <li>Reduced access to services</li> </ul>

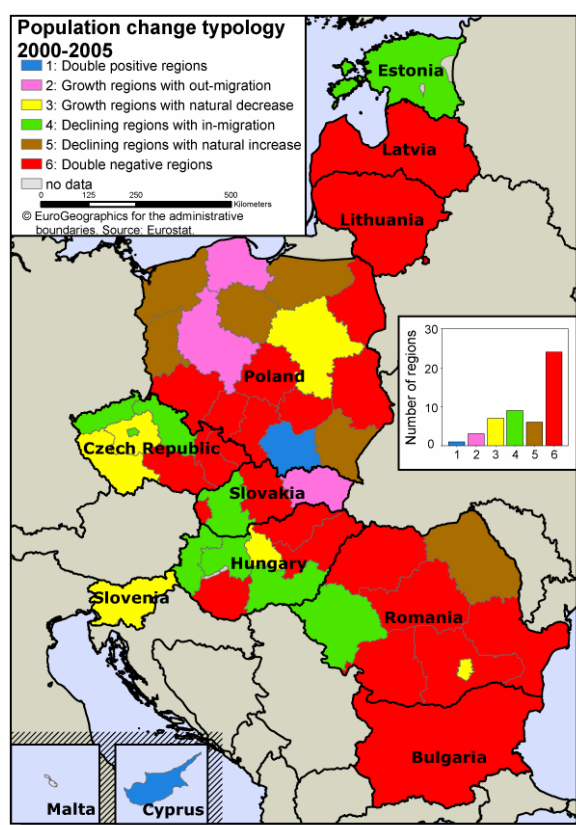
Source: Brown and Schafft (2002, p.236)

By way of combining the total population development, the natural population development and net migration allow classifying the NUTS2 regions in six types with different characteristics of population change (see Map 2.4). The most striking feature in CEE is that nearly one half of the regions are belonging to the Type 6, which is characterised by out-migration and natural population decrease. This is the opposite in the EU15 countries, where 1995-2000 the Type 1 "Double Positive Regions" was most frequent (see Copus et al. 2006). The second most frequent type in CEE is Type 4, characterised by in-migration coupled with negative natural population change. It is typical for regions, which are attractive for elderly people, singles and highly educated people among the in-migrants. Regions of Type 4 are located in Estonia, Northern Czech Republic and Prague,



around Bratislava, in Western Hungary and Western Romania. It is similar to Type 3, the third most frequent type, where the in-migration is high enough to counterbalance the natural population decrease. Regions of this type are mainly capital regions (in Poland, Czech Republic, Hungary, Romania and Slovenia). Type 5 and 2 refer both to regions with out-migration and natural population increase; in Type 5 is the overall balance negative (located in Northern and South Eastern Poland and North Eastern Romania), in Type 2 it is positive (located in Northern Poland and Eastern Slovakia). In the long term, this group runs an obvious risk that migration induced changes in age structure and fertility will result in natural change turning negative and shifting the regions into Type 6. The most favourite type 1 can be found only in one region in South Eastern Poland and in Cyprus. An analysis on NUTS3 level would of course refine the pattern (see Copus et al. 2006).

Map 2.4 Population change typology in NUTS2 regions of the NMS, 2000-2005



Type	Total pop. change	Natural pop. change	Net migration	Description
1	+	+	+	Double positive regions: In-migration and young population/"high" TFR. High sustainability both in short and long term. The most favourable case.
2	+	+	-	Growth regions with out-migration: Out-migration and young population/"high" TFR. Sustainability in the short term. In the long term eroding sustainability due to lopsided age structure (out-migration).
3	+	-	+	Growth regions with natural decrease: In-migration and natural population decrease because of lopsided age structure and/or low TFR. Dependent on in-migration. No long term sustainability.
4	-	-	+	Declining regions with in-migration: In-migration and low TFR. In-migration of elderly and/or singles, low reproduction potential. Dependent on in-migration. Low sustainability both in short and long run.
5	-	+	-	Declining regions with natural increase: Out-migration but still young population /"high" TFR. Traditionally high fertility regions. Falling TFR => low sustainability.
6	-	-	-	Double negative regions: Out-migration and old population/low TFR, depopulation. No sustainability both in short and long term. The worst case.

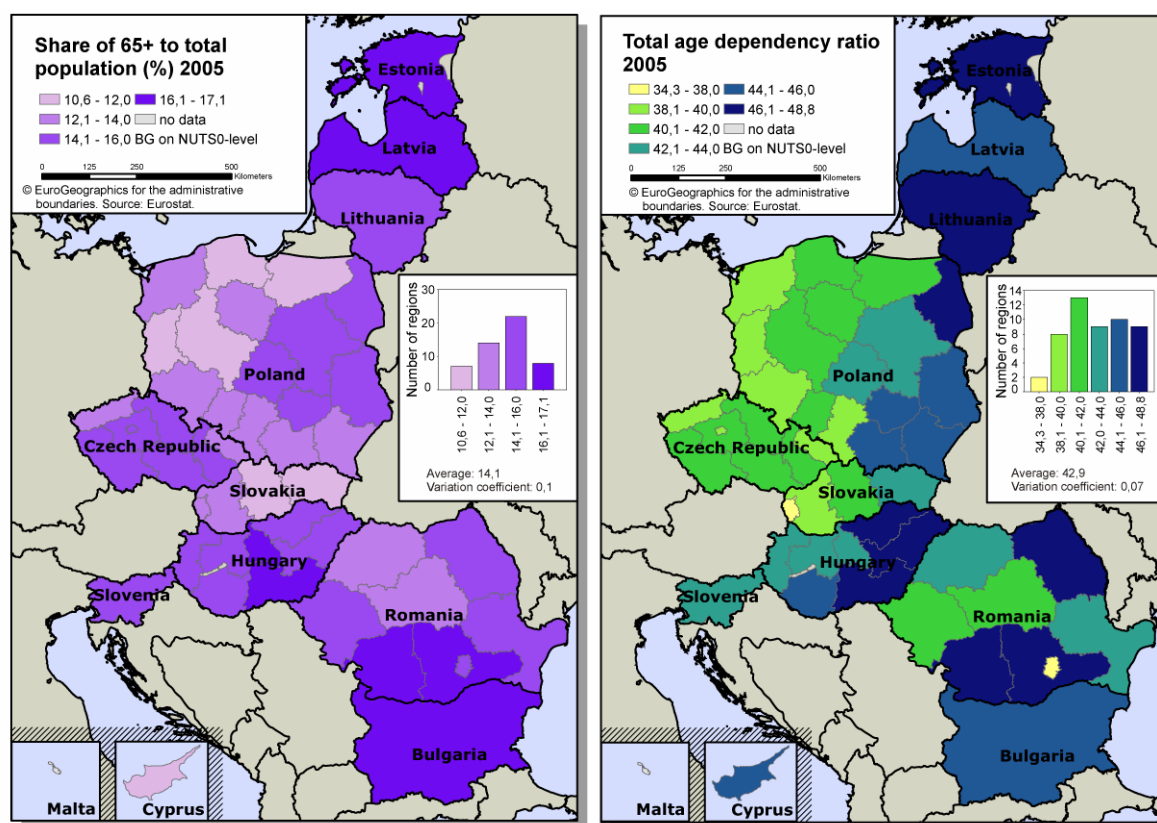
Source: Author's calculation based on Eurostat Regio data (tables reg\_d2jan, reg\_d3natmo, reg\_d3avg). Population change typology developed by Johansson and Rauhut (2005, p.13)

Notes: Average and variation coefficient unweighted. Bulgaria on NUTS0 level.

## 2.4 Age and gender patterns

Ageing of population is an important issue in all industrialised countries. In the NMS, the share of elderly people aged 65 years and over is on average still lower than in the EU15 countries. This can be explained by the high TFR until 1990 (see Section 2.2). However, there are high regional differences (see Map 2.5), which are the result of both, differences in fertility and mortality as well as age-differentiated migration. Very low shares of elderly people below 12% are typical of Cyprus, North Western Poland and Eastern Slovakia which are traditional high fertility regions. High shares of elderly people above 16% can be found in Bulgaria, Estonia, Latvia, Southern Romania and Central Hungary, all with negative natural population change and in Bulgaria combined with high out-migration. The shares of inhabitants older than 65 years and younger than 15 years, both of which are economically inactive persons, are used for the calculation of the total age dependency ratio (share of economically inactive to the number of persons in the working age between 15 and 64). It is rather low in capital regions (e.g. Bratislava, Bucharest or Prague) and relatively high in the Baltic States, Bulgaria, Eastern Hungary, parts of Romania and North Eastern Poland.

Map 2.5 Percentage share of the population aged over 65 to total population and total age dependency ratio in NUTS2 regions of the NMS, 2005



Source: Author's calculation based on Eurostat Regio data (table reg\_d2avg)

Notes: Average and variation coefficient unweighted.

Age dependency ratio = Ratio of the number of persons of an age when they are generally economically inactive (0-14 and 65+) to the number of persons of working age (15-64). This standard calculation does not take into account different retirement ages, which can be below 65 years in single countries (e.g. Bulgaria, see IOPS 2007).

High age dependency ratios stand for a relatively small size of the active population of working age and will put pressure on the public budgets from the sides of pension and health insurance, which is an increasing problem all over Europe. Analyses of the specific rural situation cannot be carried out, since data on NUTS3 level are not available in Eurostat. However, earlier studies reported for several countries higher age dependency ratios in rural areas (e.g. in Estonia or Bulgaria) so that especially for the more peripheral rural regions a tendency of out-migration of young people of working age can be assumed (European Commission, Network 2004).

The share of women in all NUTS3 regions of the NMS is above 50%. It is particularly high in the Baltic States as well as in the capitals and other urban agglomerations (see Map 2.6). The analysis by OECD categories reveals on average a 2%-points higher share of women in PU areas in comparison with PR areas (see Table 2.6). This pattern holds for all countries. The difference between PU and PR areas is especially high in Romania (PR = 50.8%, PU = 53.5%, difference = 2.7%-points), Latvia (difference 2.4%-points) and Hungary (difference 2.1%-points). This can be explained by gender-differentiated migration from rural to urban areas. Women tend to move more readily and earlier in the life cycle to the cities, and this can result in a skewed gender structure of rural areas, particularly in the age group of 20-35 years. The problem of "masculinisation" is undoubtedly more serious at a local, sub-NUTS3 level. It can be observed in many EU countries (Copus et al. 2006), mostly pronounced at the moment in Eastern Germany, discussed in German newspapers as "men's proletariat".

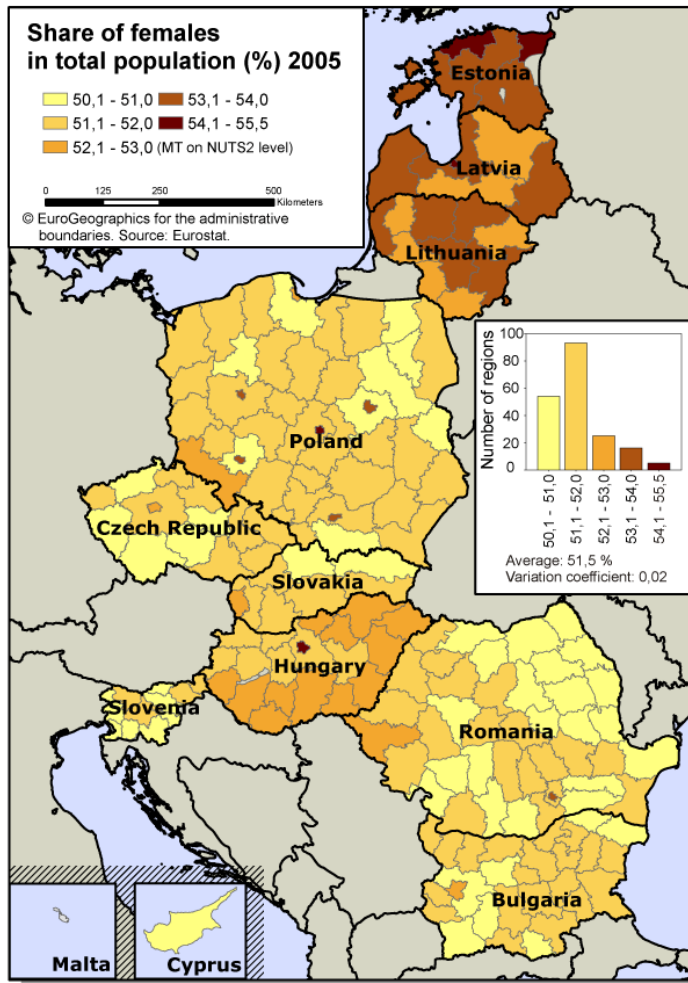
Table 2.6 Share of females (%) by Member State and OECD categories, 2005

	PR	SR	PU	All
Bulgaria	51.1	51.4	52.6	51.5
Cyprus	...	50.7	...	50.7
Czech Republic	50.5	51.1	52.1	51.2
Estonia	53.3	53.8	55.2	53.9
Hungary	52.3	52.0	54.4	52.5
Latvia	53.1	53.3	55.5	53.9
Lithuania	52.5	53.4	53.9	53.4
Malta	...	...	50.4	50.4
Poland	51.1	51.5	52.7	51.6
Romania	50.8	51.2	53.5	51.2
Slovakia	51.7	51.1	52.7	51.5
Slovenia	50.8	51.3	...	51.0
Total	51.3	51.5	53.1	51.7

Source: Author's calculation based on Eurostat Regio data (table reg\_d3avg)

Note: ... = this category does not exist for this country

Map 2.6 Share of females in total population (%) in NUTS3 regions of the NMS, 2005



Source: Author's calculation based on Eurostat Regio data (table reg\_d3avg)

Note: Average and variation coefficient unweighted.

### 3 SOCIO-ECONOMIC PATTERNS OF RURAL AREAS IN THE NEW MEMBER STATES

During socialism an equal distribution of income and economic activity was an important political goal. Accordingly, interregional disparities in income and employment tended to be rather small. Therefore, it is not surprising that during the transition to a market economy and increased integration in the world economy in virtually all CEE countries interregional disparities (e.g. in wages, GDP per capita and unemployment) substantially increased to a level that parallels or even exceeds those of many Western European economies (Baum and Weingarten 2005, Huber 2007, Keune 2000). Against this backdrop, poverty has become a problem for large parts of the (rural) population, particularly in Bulgaria, Latvia and Romania (European Commission, Network 2004). The divergence process during transition can be partly explained by "legacies of socialism", i.e. by the disparities in underlying regional "growth factors" having already been large before the transition so that CEE regions entered market reforms with very different starting points. For instance, already during socialist times, state capitals have been privileged being e.g. the location for many central offices of firms and showing a concentration of export enterprises (Huber 2007). In Slovakia as other example, regions with worse performance in transition were usually industrialised in the socialist era what often meant having only one low skill assembly plant - controlled from centres of large firms in urban agglomerations - in one community or even region (Smith 1998 cited in Huber 2007). However, a general connection between (mono-) industrialisation and unemployment is hard to establish for all CEE countries since the further development is dependent on the competitiveness and growth prospects of the dominant industry or enterprise as well as institutional factors affecting restructuring in these regions. The emerging regional disparities in wage and unemployment rate levels seem to be highly persistent, dividing regions roughly into two groups: a small group of rather well developed regions (mainly large cities and some of the Western border regions) and a larger group of poorer regions (including most of the rural areas). Spill-over effects from the cities to the surrounding rural areas are so far rather small (Huber 2007, Keune 2000). This chapter will first examine the present income distribution patterns and their past development, second, evaluate the unemployment problem, and third, analyse the sectoral employment structures.

#### 3.1 Income distribution

Looking at the GDP per capita in NUTS3 regions reveals significant regional differences ranging from 3,628 PPP<sup>5</sup> in Botosani (Romania) to 33,784 PPP in Prague (see Map 3.1). Regions with low GDP per capita (below 6,000 PPP) are located in Romania, Bulgaria, Latvia and Lithuania. Regions with high GDP per capita (above 15,000 PPP) are the capitals, Cyprus, Malta, parts of the Czech Republic, Slovenia, and Hungary. Above the average EU15 level of GDP per capita (2004: 24,336 PPP) are only Prague, Warsaw, Budapest, Bratislava, and Ljubljana. There is a clear urban-rural gradient within countries in per capita income (see Table 3.1) as well as in the annual average change rate of GDP per capita between 2000 and 2004 with PU areas having the highest growth (see Table 3.2). Exceptions are Poland and Romania, where PR areas exhibited the best performance. Generally, regions with high annual growth in GDP per capita between 2000 and 2005 (>9%)

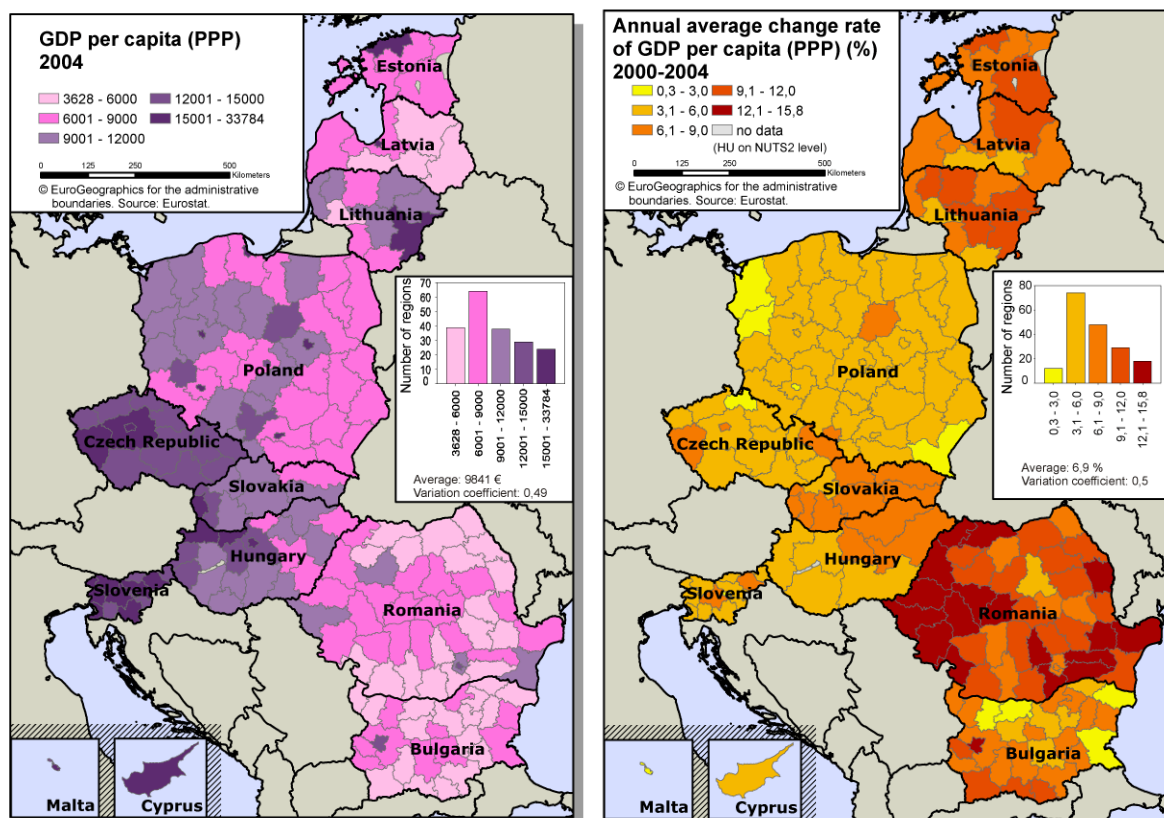
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<sup>5</sup> PPP refers to purchasing power parity.



are located in Romania, South Western Bulgaria and the Baltic States whereas the lowest growth rate (<3%) have Malta and few regions in Bulgaria, Poland, and the Czech Republic (see Map 3.1). There is no clear correlation between the growth rate 2000-2004 and the level of GDP per capita in 2004.

**Map 3.1** GDP per capita in Purchasing Power Parities (PPP) in NUTS3 regions of the NMS: Value 2004 and annual average change rate in %, 2000-2004



Source: Author's calculation based on Eurostat Regio data (table reg\_e3gdp)

Notes: Average and variation coefficient unweighted.

**Table 3.1** GDP per capita in PPP by Member States and OECD categories, 2004

	PR	SR	PU	All
Bulgaria	5537.4	6107.6	13599.3	7133.8
Cyprus	...	19643.1	...	19643.1
Czech Republic	13370.6	13916.6	33753.2	16156.9
Estonia	7661.0	13455.4	7192.2	12037.0
Hungary	9752.4	11885.7	28232.1	13751.3
Latvia	5664.1	6426.6	17920.9	9775.1
Lithuania	7603.5	10066.8	15755.6	10982.7
Malta	...	...	15983.6	15983.6
Poland	8621.3	9144.2	17738.4	10907.8
Romania	5781.2	7271.2	14417.4	7296.8
Slovakia	10366.6	10184.0	27799.3	12196.1
Slovenia	15189.9	21646.0	...	17922.2
Total	8107.2	9994.4	19287.0	10939.6

Source: Author's calculation based on Eurostat Regio data (tables reg\_e3gdp, reg\_d3avg)

Note: ... = this category does not exist for this country

**Table 3.2** Annual average change rate of GDP per capita in PPP (%) by Member States and OECD categories, 2000-2004

	PR	SR	PU	All
Bulgaria	5.67	6.36	12.03	7.91
Cyprus	...	4.69	...	4.69
Czech Republic	5.87	5.49	7.06	5.84
Estonia	6.42	9.94	7.07	9.48
Hungary	n.a.	n.a.	n.a.	6.44
Latvia	6.98	6.69	10.23	8.63
Lithuania	7.21	9.15	11.93	9.85
Malta	...	...	0.75	0.75
Poland	4.49	3.71	4.33	4.12
Romania	10.80	10.69	8.02	10.21
Slovakia	6.66	6.25	7.99	6.67
Slovenia	5.22	5.77	...	5.53
Total	2.71	4.17	3.45	6.24

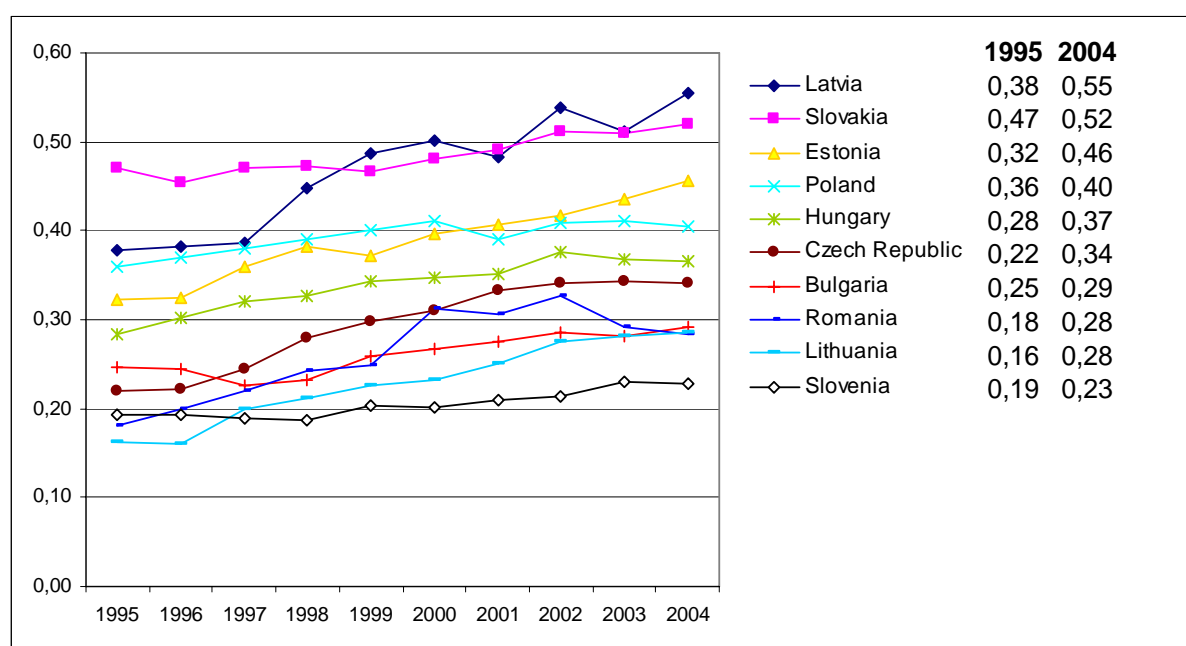
Source: Author's calculation based on Eurostat Regio data (tables reg\_e3gdp, reg\_d3avg)

Note: ... = this category does not exist for this country. n.a. = data not available



During transition, the disparities in income increased. This process was particularly pronounced in terms of wage levels in the early transition (with the exception of Romania) (Huber 2007). Analysing the sigma-convergence<sup>6</sup> in terms of GDP per capita (PPP) between 1995<sup>7</sup> and 2004 reveals increasing divergence in all CEE countries (see Figure 3.1). The rise was particularly pronounced in the Baltic States and the Czech Republic and less pronounced in Slovenia and Poland. The highest disparities in terms of GDP per capita (PPP) measured by the variation coefficient have Latvia and Slovakia, the lowest one Slovenia.

Figure 3.1 Variation coefficient (sigma-convergence) of the GDP per capita in Purchasing Power Parities calculated with NUTS3 regions, 1995-2004



Source: Author's calculation based on Eurostat Regio data table reg\_e3gdp)

Note: The values for Romania and Poland 1995 have been calculated with Eurostat data of 2003. They are not completely comparable with the other data of the time series. The values for Poland 1996-1999, Hungary 2000 and Romania 1996-1997 are interpolations.

### 3.2 Unemployment

At the outset of transition, there was a decline in employment and a substantial increase in unemployment rates in almost all transition economies. The achieved growth in GDP per capita since 1993 - after the drastic decline at the beginning of transition - generally did

<sup>6</sup> Development of the variation coefficient over time is a commonly used measure for convergence or divergence processes.

<sup>7</sup> Data for GDP per capita are available only beginning from 1995 at Eurostat. For analysing the development during transition it would be more useful of course to have data beginning from 1990.

not lead to a comparable growth in (formal) employment. Furthermore, interregional disparities in terms of unemployment *within* most CEE countries increased with the exception of the Czech Republic and Romania. However, the increase in these disparities was less pronounced than the one of wages and came to a stop in all countries but Slovakia in the later transition. Official unemployment rates never reflect the whole truth of unemployment reality. At least some of the labour force is discouraged from searching for employment and therefore classified as "economically inactive" or is working on a family farm and does not register as unemployed although not working to full capacity (hidden unemployment). Therefore, disparities in the degree of under-utilisation of labour are higher than implied by registered unemployment data. Persistent unemployment rate disparities reflect differences in the speed of restructuring. However, the link between the speed of privatisation and net job creation is ambiguous. In regions with more rapid privatisation, job destruction in formerly state-owned enterprises has sometimes been faster than job creation in new enterprises (Huber 2007, Keune 2000).

In 2005, the unemployment rate showed large differences between regions but also between countries (see Map 3.2 and Table 3.3). The most striking features are the extremely high unemployment rates (>16%) of Poland and Slovakia, in contrast to comparatively low unemployment rates (<7.5%) in Cyprus, Slovenia, Hungary, and Romania. In all countries, unemployment is higher in rural than in urban areas with the exception of the Baltic States (see Table 3.3).

Table 3.3 Total unemployment rate by Member States and OECD categories, 2005

	PR	SR	PU	All
Bulgaria	12.9	10.7	7.6	10.1
Cyprus	...	5.3	...	5.3
Czech Republic	6.8	8.7	3.5	7.9
Estonia	5.8	7.1	14.6	7.9
Hungary	8.3	7.3	4.7	7.2
Latvia	7.6	12.1	7.9	8.9
Lithuania	7.1	8.9	8.6	8.3
Malta	...	...	7.3	7.3
Poland	18.5	18.3	15.5	17.7
Romania	7.1	7.6	6.8	7.2
Slovakia	20.8	16.6	5.3	16.3
Slovenia	7.6	5.0	...	6.5
Total	13.2	11.7	10.7	11.9

Source: Author's calculation based on Eurostat Regio data (tables reg\_lfu3pers, reg\_lfp3pop)

Notes: The following regions are not included in the analysis due to missing values: bg322 (SR), bg413 (SR), lt004 (PR), lt007 (PR), ro226 (PR), ro314 (PR).  
... = this category does not exist for this country

The regional pattern of *youth* unemployment roughly follows the picture of total unemployment. It is extremely high (>30%) in Poland, Eastern Slovakia, the Eastern Czech Republic, North Eastern Hungary, and North Western Bulgaria. In the Polish region Legnicki it is up to 52%. The regions with the lowest youth unemployment (still above 9%!) are located in Cyprus, the Czech Republic (including Prague), Estonia, Central Hungary, Latvia,

Slovenia, and Bratislava. Rural-urban differences are very pronounced in most countries (see Table 3.4). The finding of high unemployment rates of young people below 25 years is a very critical issue for rural areas. If young people see no future in their home villages they will more likely migrate away into cities or other countries and thereby reduce the future potential of the affected regions.

**Table 3.4** Unemployment rate of inhabitants younger than 25 years by Member States and OECD categories, 2005

	PR	SR	PU	All
Bulgaria	n.a.	n.a.	15.9	22.4
Cyprus	...	13.9	...	13.9
Czech Republic	19.7	20.2	9.1	19.2
Estonia	n.a.	15.1	30.6	15.8
Hungary	17.8	15.8	13.3	19.4
Latvia	10.7	19.1	12.4	13.5
Lithuania	n.a.	n.a.	15.6	15.7
Malta	...	...	16.8	16.8
Poland	36.8	38.2	34.3	36.9
Romania	n.a.	n.a.	23.2	20.3
Slovakia	33.1	32.1	9.7	30.1
Slovenia	17.4	13.2	...	15.9
Total	31.9	29.2	25.4	27.2

Source: Author's calculation based on Eurostat Regio data (tables reg\_lfu3pers, reg\_lfp3pop)

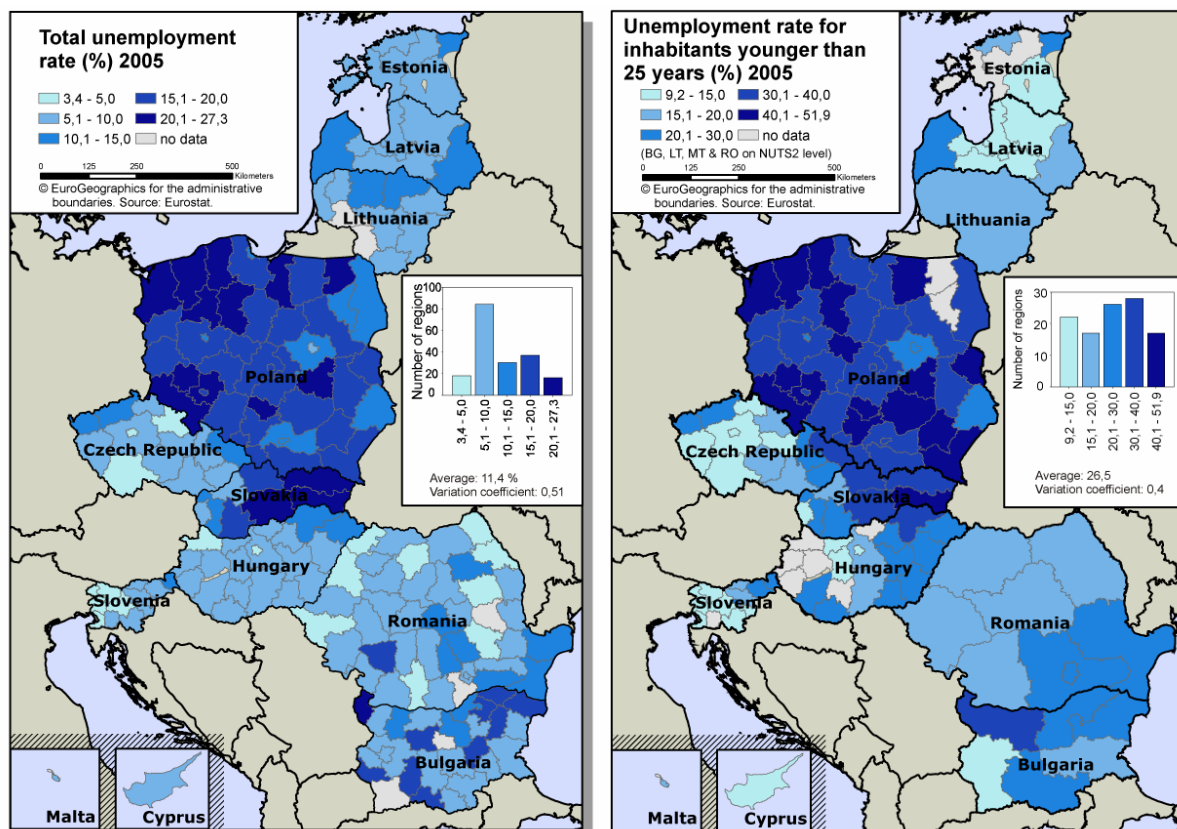
Notes: The following regions are not included in the analysis due to missing values (additional to OECD categories marked with "n.a."): ee004 (SR), hu213 (SR), hu221 (SR), hu222 (SR), hu223 (PR), hu 233 (PR), hu313 (PR).

... = this category does not exist for this country. n.a. = data not available

Hopes that the regional labour market disparities in the CEE countries could diminish soon through the traditional channels of migration, wage flexibility and capital mobility are rather bleak. Migration in CEE countries too low (see Section 2.3) to be able to balance regional disparities in income and unemployment. Furthermore, regions with poor economic performance show often the lowest migration rates due to structural reasons and subsequent high shifting costs (e.g. low educational level and poor employment opportunities of potential migrants; scarce financial means to move). Commuting is also too weak to compensate for low migration. Transport costs severely constrain the commuting distance of unemployed workers (Fidrmuc 2004, Huber 2007). Wage flexibility is in CEE perhaps slightly higher than in the EU15. This, however, should not be taken as a sign of high flexibility since EU15 countries themselves are known to have a low responsiveness of wage levels to regional unemployment rates (Huber 2007). Finally, capital mobility seems presently to reinforce existing regional disparities rather than to reduce these and thus is unlikely to act as a substitute for low regional labour mobility. Investments go primarily to regions which are already performing better. This is particularly pronounced in the case of foreign direct investments (FDI). They are strongly concentrated in capital cities and other centres of economic activity as well as regions located closer to Western European borders (European Commission, Network 2004,

European Commission 2004 and 2007a, Huber 2007). This holds also for FDI in the agri-food-sector from which a revitalisation of rural areas was expected (Jansik 2004). This suggests that enhancing regional mobility and triggering investments in lagging regions should be an important policy objective.

**Map 3.2** Unemployment rate of total population and of the population younger than 25 years (%) in NUTS3 regions of the NMS, 2005



Source: Eurostat Regio data (table reg\_lfu3rt)

Notes: Average and variation coefficient unweighted.

Recent data reveal a strong employment expansion in all NMS in 2006, highest in Estonia (5.4%), followed by Latvia (4.8%), Poland (3.3%), Bulgaria (2.4%), and Slovakia (2%). Only Romania showed just marginal improvements in employment. Associated with employment growth, unemployment declined most substantially since the end of the last decade. The average unemployment rate of the EU27 dropped from 8.7% in 2005 to 7.9% in 2006. Among the individual Member States, Estonia, Latvia, Lithuania, Poland and Slovakia have seen the strongest reduction, although the latter two countries still have the highest unemployment rates in Europe (European Commission 2007b).

### 3.3 Sectoral employment structure

The transition process in CEE has been associated with substantial structural change in the composition of employment: private sector employment increased to 68% from virtually

zero, the share of services increased on average by 15% from 1989 to 2004 (Huber 2007). However, employment in services is still considerably lower in CEE than in EU15 countries while employment shares in primary and secondary sector remain substantially higher. The mix of different industrial sectors is often considered as an important determinant of growth, the acquisition of skills, investment and new technology. Regions well presented in fast-growth sectors (such as business services and so-called knowledge industries) are likely to be more dynamic than regions with a high proportion of employment in declining or low-growth sectors. However, low growth or low productivity may exist across all industries in a region, so the problem is not solely one of industrial mix (Copus et al. 2006). Furthermore, data available in Eurostat do not allow separating industrial sectors in necessary detail so that the analysis has to be limited to the main three sectors of agriculture<sup>8</sup>, industry and services.

In about one fifth of regions in the NMS, agriculture accounts still for around one third of employment; in Silistra and Kardzhali (Bulgaria) even for more than 50%. Regions with a high employment share in agriculture are located in Romania, Bulgaria, Poland and Lithuania, whereas Malta, the Czech Republic and Slovakia show rather low shares (see Map 3.3). Unsurprisingly, the agricultural employment increases with the degree of rurality in all countries. On average, it is 22.3% in PR regions, 13.3% in SR regions and 1.5% in PU regions of the NMS (see Table 3.5). The industrial sector has a high employment share (above 40%) in regions in the Czech Republic, Slovenia, North Western Slovakia, North Western Hungary, and Romania. Few industrialised regions (employment share below 20%) are in Eastern Poland, Bulgaria, Lithuania and Prague. Rural regions often exhibit higher employment shares in industry than urban agglomerations (see Table 3.5). The service sector is particularly pronounced in all capitals as well as in Malta and Cyprus, in the latter two due to the high significance of tourism. Extremely low employment shares in the services sector (<40%) have several regions in Romania, Bulgaria, Slovenia, Poland, and Lithuania. The employment share of services is significantly lower in rural than in urban areas in most countries. On a local level the employment situation of rural areas is assumed to be much more critical in view of a relatively low share of non-agricultural jobs. Socialist industrialisation took place mainly in urban centres of regions and a deconcentration in rural areas as in Western Europe could hardly be observed. The services sector was generally weak so that rural areas did not profit from it as well (Arnold 1998; Banski 2004).

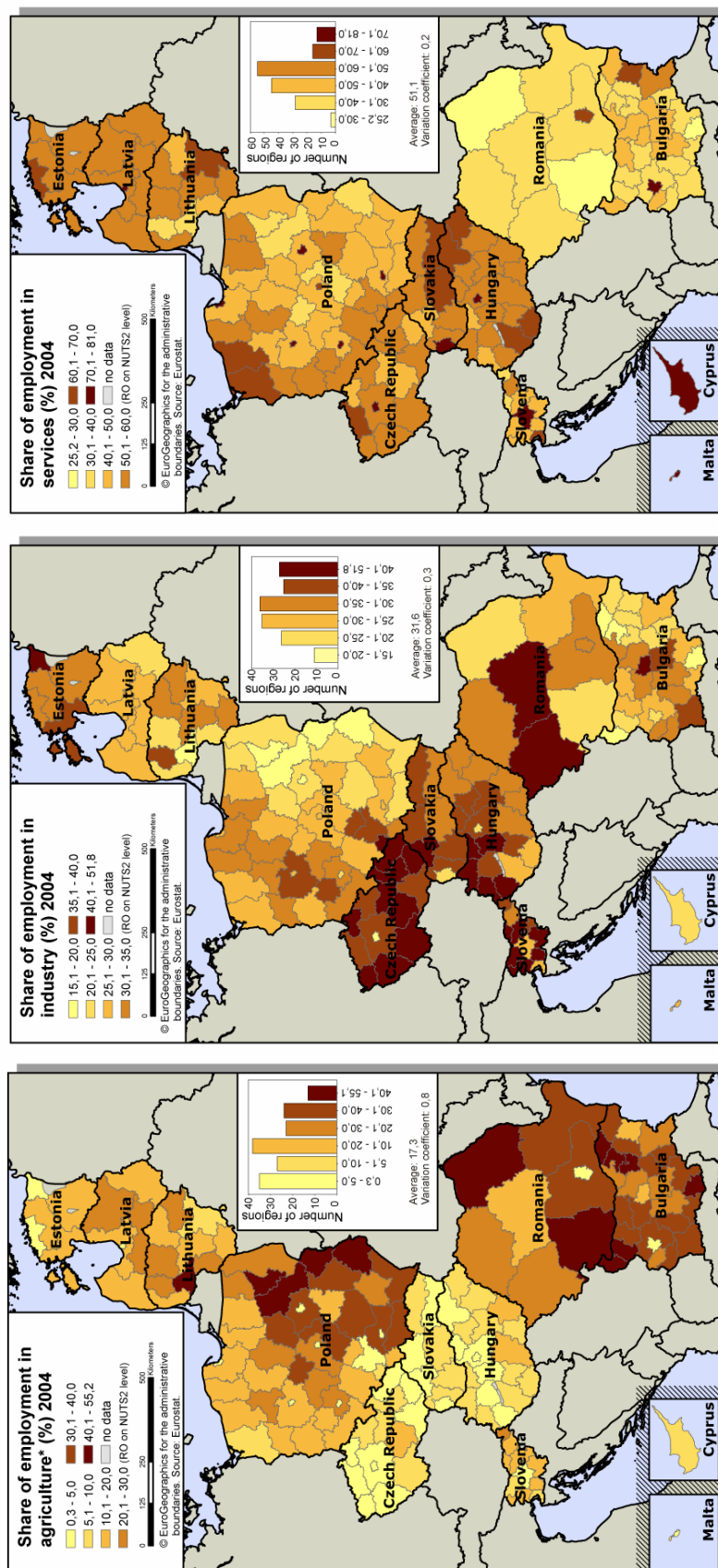
Between 1995 and 2001, the service sector was the most dynamic one in the EU27 - i.e. had the highest annual average rate of employment change for all three sectors - in 69% of the 1280 NUTS3 regions. This finding holds principally also for the NMS. However, in all NMS with the exception of Cyprus, Malta and Slovakia, there are also regions with a declining service sector, altogether in more than one half of the 193 NUTS3 regions in the NMS. In one third of the NMS regions no sector showed growth at all. In one fifth of all NMS regions - located in Poland, Bulgaria and Slovenia - employment decreased in all sectors with agriculture being the one with the slowest decline. This was a specific rural phenomenon (Data prepared for Copus et al. 2006).

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<sup>8</sup> Including hunting, forestry, and fishery.



Map 3.3 Sectoral employment structure in NUTS3 regions of the NMS, 2004



Source: Author's calculation based on Eurostat Regio data (tables reg\_e3empl, reg\_lfe2enace)

Notes: Average and variation coefficient unweighted.

\* Agriculture including hunting, forestry and fishery.

These data are based on the employment statistics of the Branch Accounts, which result from the Labour Force Survey in the NMS. Persons employed are assigned to that economic sector in which they mainly work, so that many part-time farmers and farm-workers are not included in the agricultural employment figures. Changes over time in numbers employed in the various sectors, and, in particular, in agriculture, are measured on the basis of annual employment estimates (European Commission 2003, p. 124).

Table 3.5 Percentage share of employed in agriculture<sup>1)</sup> (Agric.), industry (Ind.), and services (Serv.) by Member States and OECD categories, 2004

	PR			SR			PU			All		
	Agric.	Ind.	Serv.	Agric.	Ind.	Serv.	Agric.	Ind.	Serv.	Agric.	Ind.	Serv.
Bulgaria	39.2	24.0	36.9	26.0	30.0	44.0	1.7	21.8	76.5	24.9	27.0	48.1
Cyprus	...	...	...	5.4	20.4	74.2	...	...	...	5.4	20.4	74.2
Czech Rep.	10.1	44.6	45.2	4.3	41.8	53.9	0.3	19.2	80.5	4.0	38.4	57.6
Estonia	16.8	32.8	50.5	5.1	33.2	61.8	1.7	47.6	50.7	5.8	34.7	59.5
Hungary	8.0	36.0	56.0	5.3	37.3	57.5	0.6	21.6	77.7	5.1	32.9	62.0
Latvia	18.0	27.7	54.3	19.3	25.5	55.2	0.5	26.2	73.2	12.0	26.6	61.4
Lithuania	27.2	25.9	46.9	17.2	29.1	53.7	5.1	27.6	67.3	15.8	28.1	56.1
Malta	...	...	...	...	...	...	2.5	26.6	70.9	2.5	26.6	70.9
Poland	27.1	27.4	45.5	21.7	28.1	50.2	1.6	28.1	70.3	17.9	27.8	54.2
Romania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	31.8	31.4	36.8
Slovakia	6.5	33.9	59.6	4.4	38.7	56.9	1.6	22.7	75.7	4.4	34.6	61.0
Slovenia	14.5	40.6	44.8	5.4	29.9	64.7	...	...	...	10.3	35.7	54.0
Total	22.3	30.1	47.6	13.3	33.5	53.2	1.5	25.6	72.9	13.0	30.7	56.2

Source: Author's calculation based on Eurostat Regio data (table reg\_e3empl)

Note: Including hunting, forestry and fishery.

... = this category does not exist for this country. n.a. = data not available

New employment opportunities for rural areas are badly needed. Hopes are often connected with tourism (see Section 4.4), renewable energy, culture, nature and landscape management, quality and organic products, information technology (teleworking) as well as health and social services. There are no generally applicable answers for rural areas. Forms of diversification, which work well in one area, do not necessarily succeed elsewhere. Many rural enterprises are location-specific. For example, the growth of certain crops depends on particular agri-climatic conditions, the location by a major road or near to a thriving city will provide opportunities not open to more remote rural areas, and tourism depends on the proximity of the coast or a particular kind of landscape or climate. Furthermore, many of the cited new employment opportunities depend upon consumption of luxury or semi-luxury goods and services (Copus et al. 2006). Bottom-up approaches are meanwhile widely accepted and recommended to foster the establishment and start-up of new enterprises and entrepreneurial initiatives of rural population.

An indicator for entrepreneurs can be partly the share of self-employed people. Self-employment rates increased in recent years in the NMS, approaching the level of the EU15. They are particularly high (>20%) in Romania, Poland and Cyprus and very low (<10%) in Estonia and Latvia. Rural areas show often higher rates of self-employment than urban areas. However, many self-employed may not act innovatively or exhibit strong growth since they act out of distress-push instead of demand-pull reasons. Furthermore, self-employed people contain in many countries a high share of farmers, partly explaining the high rates in Poland and Romania which have a high share of small (semi-subsistence) farm holdings (cf. Copus et al. 2006).



## 4 AGRICULTURAL PATTERNS OF RURAL AREAS IN THE NEW MEMBER STATES<sup>9</sup>

In the NMS, agriculture still plays an important role in rural areas. While this sector has seen far-reaching restructuring during transition in CEE, it now faces several new challenges including EU accession, more liberal trading arrangements, environmental issues, changes in consumer preferences as well as in the degree and nature of public support. Furthermore, there are some very specific characteristics of CEE agriculture that influence its future potential. This chapter will, first, point out the development and the recent dimensions of agricultural employment. Second, it will analyse the structure of the agricultural labour force and farm sizes. Third, the possibilities of on-farm diversification, particularly into tourism, will be outlined.

### 4.1 Development and recent dimension of agricultural employment

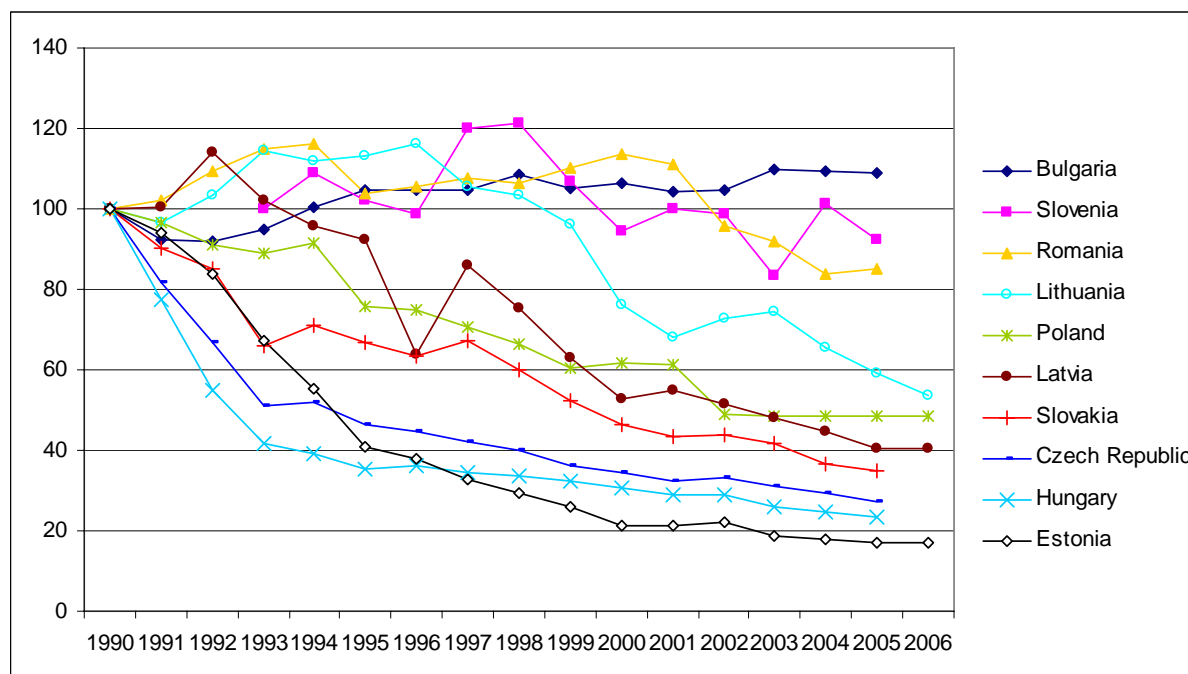
In the CEE countries the restructuring processes during transition has led to a dramatic transformation of the agricultural workforce since 1990. Figure 4.1 shows the development of the number of employed persons in agriculture between 1990 and 2006 based on national statistics (such figures are not available from Eurostat). These figures should be interpreted with caution because of statistical problems such as hidden unemployment, no information equivalent to the annual working unit (AWU) and the counting of non-agricultural labour in agricultural cooperatives (cf. Macours and Swinnen 1998).

In Hungary, the Czech Republic, Slovakia and Estonia, there was a significant slump in agricultural employment in the first years of the 1990s, with annual average change rates of -10% to -30%, coinciding with a consolidation of large scale farm structures and the release of non-family labour. This was followed by a more stable period, but with an annual decrease still exceeding that in the EU-15, until about 2000. In Poland, where in comparison to the other CEE countries, farm restructuring was less pronounced, since family farms had already been the predominant farm type prior to transition, the agricultural labour force was much less reduced. However, it is difficult to exactly determine the extent of the reduction. Prior to the Polish 2002 Agricultural Census on agricultural employment the statistics included farms of less than 1 ha and, thus, probably many (semi-) subsistence farmers with very small plots, which, in fact, were securing the livelihoods of hidden unemployed people (Figure 4.1 uses revised numbers for the years 1995-2001). In Bulgaria, Romania and Slovenia until about 1998-2000, and in the first years of transition also in Latvia and Lithuania, there was an observable increase in agricultural employment. This reflects the creation of small family farms arising from the land privatisation process, migration from urban to rural areas and (semi-) subsistence agriculture acting as social buffer during the development of a more market orientated economy. The EU accession in 2004 seems to have had so far no impact on existing trends. This goes in line with the finding of the SERA case studies which judged the overall impact of the CAP introduction on agricultural employment in the NMS to be rather minor (Copus et al. 2006).

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<sup>9</sup> This chapter draws partly on the chapter „Agricultural employment“ of the SERA study (Study on Employment in Rural Areas, see Copus et al. 2006, p.57-85) written by Sabine Baum. Parts of it have been used as basis, revised and updated.

Figure 4.1 Development of employed persons in agriculture<sup>1)</sup> in the CEE countries, 1990-2006 (1990=100)<sup>2)</sup>



Source: Author's calculation based on Statistical Yearbooks of Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia (2007 and earlier). Poland 1995-2001 (revised figures): Bundesministerium für Verbraucherschutz, Ernährung und Landwirtschaft (2004). Poland since 2003: Central Statistical Office (2007): Employment in National Economy in 2006, Warsaw. Hungary since 2003: Hungarian Central Statistical Office (2006): Statistical Yearbook of Agriculture 2005, Budapest. Latvia since 2003: Central Statistical Bureau of Latvia (<http://www.csb.gov.lv/>). Lithuania since 2003: Statistics Lithuania (<http://www.stat.gov.lt/>)

Note: <sup>1)</sup> Including hunting in the Czech Republic, Estonia, Latvia, and Slovenia; including hunting and forestry in Bulgaria, Lithuania, and Romania; including hunting, forestry and fishery in Hungary, Poland, and Slovakia. <sup>2)</sup> Slovenia: 1993=100.

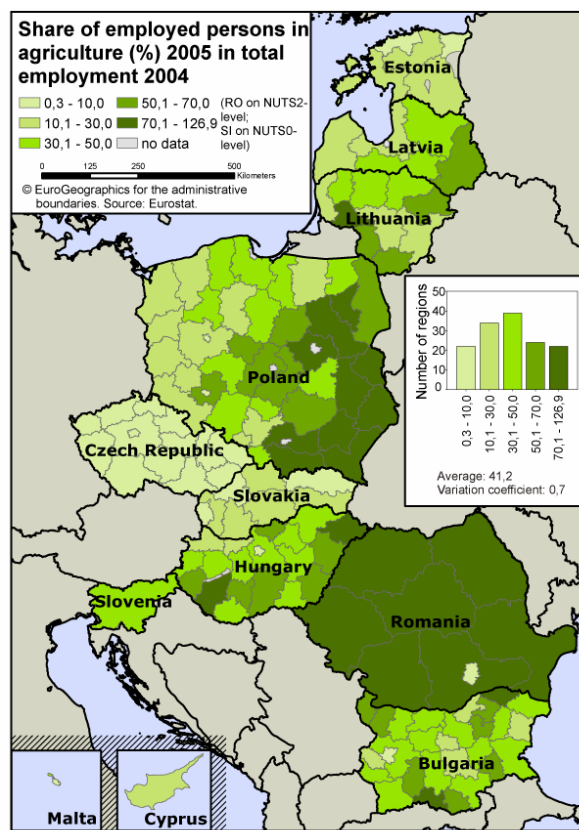
The future development in agricultural employment is difficult to forecast. Generally, agricultural labour adjustment is influenced by labour saving technical progress, macroeconomic environment (including economic growth and non-farm employment<sup>10</sup> opportunities), farm structures, socio-economic characteristics of the farmer, and agricultural support policies (cf. Copus et al. 2006). The predominance of family farms in

<sup>10</sup> The terms non-farm and off-farm employment are frequently used synonymously, but, in fact have different definitions. Non-farm employment includes local but also urban jobs, unearned income from pensions and alike, as well as remittances from intra-national and international migration (Start 2001). Ellis (2000) defines off-farm employment as wage labour on other farms, whereas Barrett, Reardon and Webb (2001) refer to rural off-farm employment as all activities away from the farmers own property (spatial definition). According to Barrett, Reardon and Webb (2001), off-farm employment includes all activities defined under the term non-farm rural employment as well as wage labour on other farms. For better distinction, however, the majority of scholars use the term non-farm employment such that it excludes wage labour on other farms.

most NMS (see Section 4.2) means that intergenerational farm transfer is a most significant process in the structural adjustment of the agricultural labour force and involves complex decision making processes of farm households. In the SERA project, it has been attempted to roughly estimate future trends in agricultural employment by the evaluation of scenarios based on comparative technical standards between the EU15 and the NMS as well as on experiences of agricultural labour force reduction in Greece, Spain and Portugal after their EU accession. The results show that in the NMS 3 to 6 million persons working in agriculture may potentially leave the sector between 2003 and 2014 (Copus et al. 2006).

At present, employment in agriculture is still considerably higher in the NMS than in EU15 countries (cf. Section 3.3). The comparison of the Farm Structure Survey (FSS) data with primary sector employment data from the Labour Force Survey (LFS)<sup>11</sup> generally show a much higher share of persons employed in agriculture and in most countries a slightly lower share of AWU<sup>12</sup>. In Map 4.1 the number of employed persons counted by the FSS has been set in relation to the number of total employed of the LFS. The regional pattern resembles roughly the pattern of the agricultural employment shares by LFS as shown in Map 3.3. In Romania and Eastern Poland as well as in few regions in Hungary, Bulgaria and Lithuania, more than three quarters of total employed persons have an equivalent of persons working in agriculture. In some Romanian regions,

**Map 4.1** Share of employed persons in agriculture 2005 in total employment 2004 in NUTS3 regions of the NMS



Source: Author's calculation based on Eurostat Regio data (tables reg\_a2efarm, reg\_e3empl, reg\_lfe2enace)

Notes: Average and variation coefficient unweighted. Values can exceed 100% because of the two different data sources: The persons employed in agriculture are counted by the FSS, which can include persons who are not accounted as officially employed in the LFS, which is used for the total number of employed persons.

<sup>11</sup> Most recent available year at the time of analysis: FSS 2005, LFS 2004.

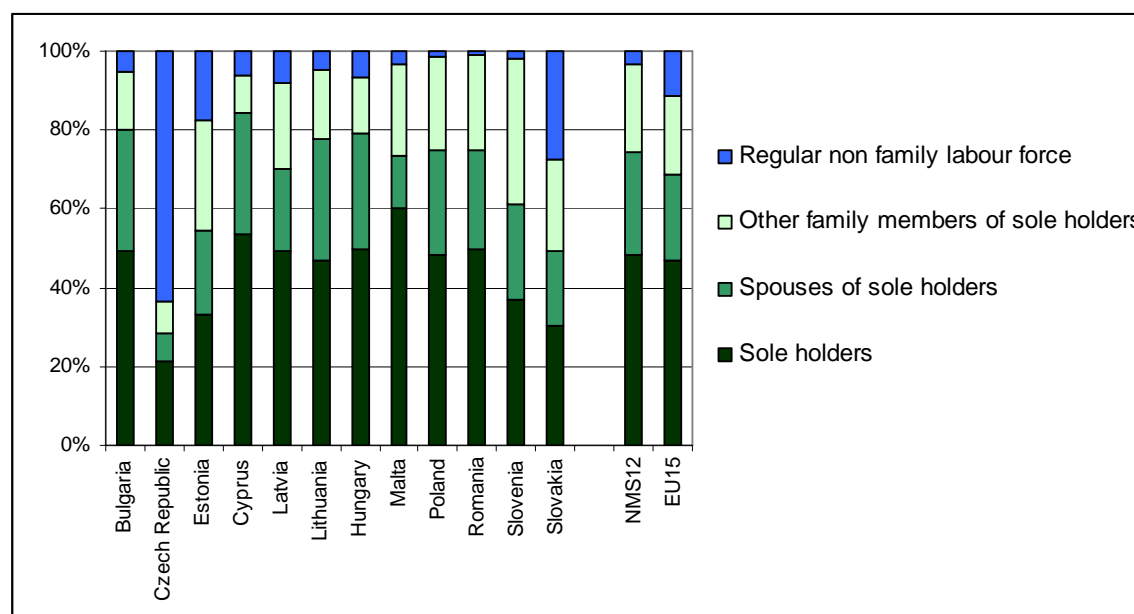
<sup>12</sup> An annual working unit (AWU) corresponds to the work performed by one person who is occupied on an agricultural holding on a full-time basis. "Full-time" means the minimum hours of work required by the national provisions governing contracts of employment, normally 1800 hours, i.e., 225 working days of 8 hours each. Differing hours: LV 1840, BG 1856, RO 1960, LT 2032, CY 2080, PL 2144 (Personal communication with György Benoist, EUROSTAT, Unit E1, 21.04.05).

even more persons are counted as working in agriculture by the FSS than total employed persons are counted officially by the LFS. This stresses the significance of part-time work and the social security function of agricultural employment in these regions. Furthermore, it shows that the amount of employment in the agricultural sector based on persons can be easily exaggerated. Part-time farming and pluriactivity is also mirrored by the differences between persons and AWU working in agriculture. In Malta, Romania, Cyprus, and Hungary, the number of persons in agriculture is more than three times higher than the number of AWU in agriculture indicating that part-time farming is very common. In contrast, the number of persons in agriculture is less than two times higher than the number of AWU in agriculture in the Czech Republic, Bulgaria, and Latvia indicating less part-time farming (cf. Section 4.2).

## 4.2 Structure of agricultural labour force

The structure of agricultural labour force - e.g. the share of non-family labour force, the share of part-time farming and the age structure of labour force - influences the adjustment processes of agricultural employment. The farm family is by far the most important source of farm labour in the NMS. The share of family farm labour exceeds with 97% (measured in persons) in the NMS even the share of family labour in the EU15 (89%). This implicates complex household decision making in the development of agricultural employment. However, there are differences between countries. In most countries, the share of the family labour force in the regular agricultural labour force measured in persons is above 90%. Exceptions are the Czech Republic, where this share is only 37%, Slovakia (72%), and Estonia (82%) (see Figure 4.2). The high share of non-family labour in these countries can contribute to a faster adjustment of labour input to changing economic conditions, since the farm holder himself is not directly affected by the dismissal of employees and employed farm workers are emotionally less connected with the farm enterprise.

Figure 4.2 Share of family and non-family labour force in the NMS by country, 2005

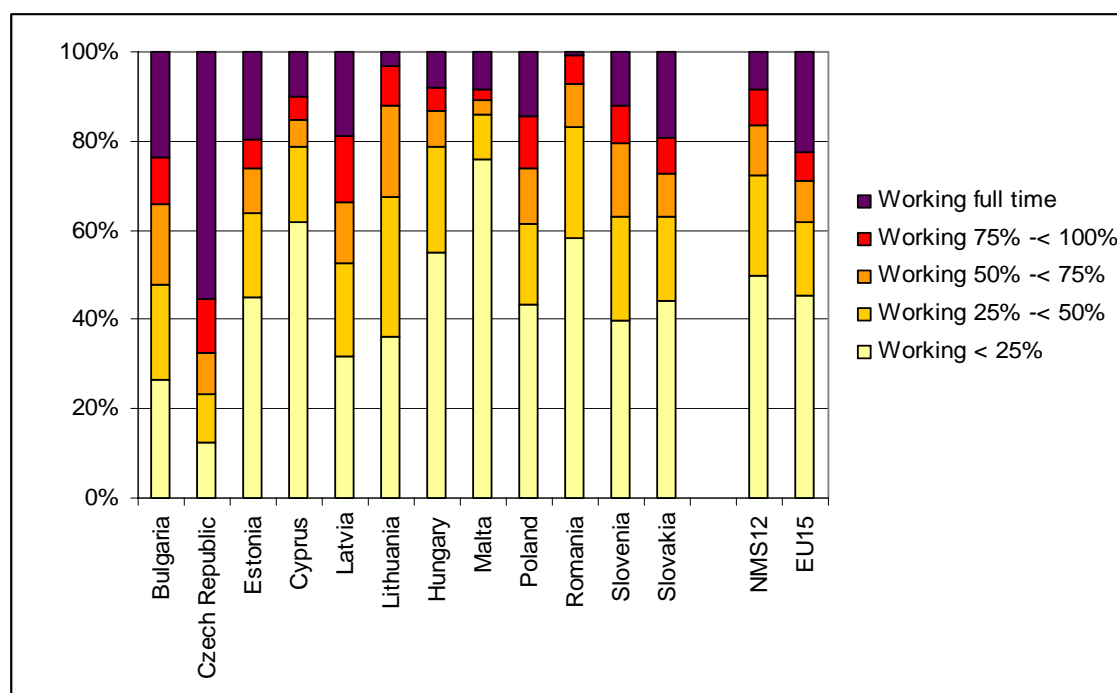


Source: Author's calculation based on Eurostat data (table ef\_ov\_lfsum)

As expected, the share of the family labour force measured in AWU is lower in all countries (on average by 4%-points) because of the prevalence of part-time family workers compared to non-family workers. Differences between persons and AWU are extremely high in Slovakia (28%-points), Estonia (17%-points) Hungary and Cyprus (12%-points), and the Czech Republic (10%-points). Sole holders have a share of nearly 50% in the regular agricultural labour force with their lowest share in the Czech Republic and Slovakia.

Part-time farming plays an important role in agriculture of the NMS. In 2005, only 8% of the employed persons on farms worked full-time (compared to 23% in EU15). 50% of the agricultural workforce was employed less than 25% of the time available for a full time worker. However, there are big differences between countries (see Figure 4.3). Most of the NMS have high shares (comparable to the Southern European Member States) above 80% of part-time farming; however, it is only 46% in the Czech Republic. Another indicator for part-time farming is the comparison of agricultural employment expressed in persons with that expressed in AWU. Differences between persons and AWU are greatest for "other family members" (indicating a high share of part-time work particularly of the younger generation) and lowest for non-family workers. Analysis for the EU25 in the course of the SERA project showed also that women work more often part-time on the farm than men (Copus et al. 2006). Most studies consider part-time farming as the first step out of agriculture, i.e., a high share of part-time farming leads to increasing farm exits. However, there is also evidence that part-time farming can be a stabilising factor of employment (Breustedt and Glauben 2007, Stiglbauer and Weiss 2000, Tietje 2004, Bojnec, Dries and Swinnen 2003).

Figure 4.3 Share of part-time work of the regular labour force in agriculture in the NMS by country, 2005

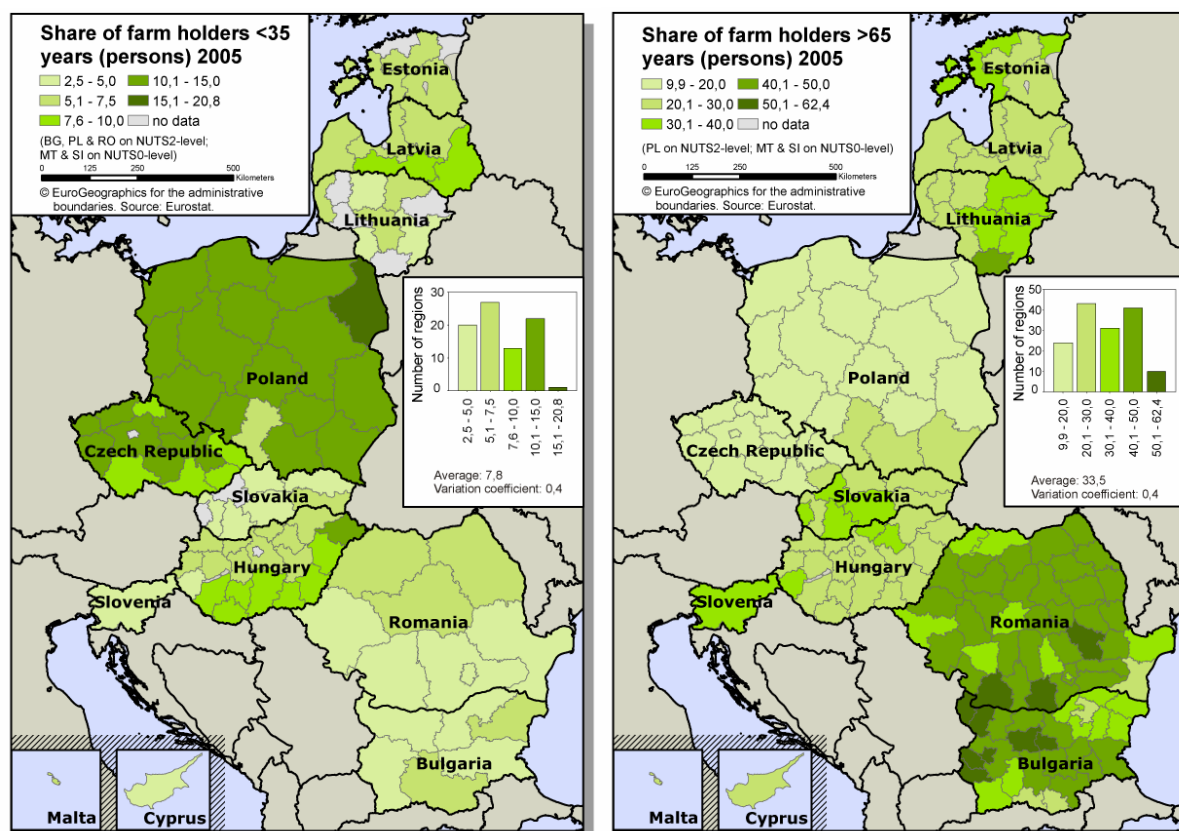


Source: Author's calculation based on Eurostat data (table ef\_so\_lfwtime)



The age structure of family labour in agriculture shows in comparison with the age structure of total employment a clearly overaged structure. The age structure of farm holders is usually even more unfavourable (Copus et al. 2006). In 2005, one third of the sole holders in the NMS (measured in persons) were on average aged above 65 years, compared to only 8% aged less than 35 years. The regional distribution shows significant differences between countries and less pronounced differences *within* countries (see Map 4.2).

Map 4.2 Percentage share of farm holders younger than 35 years and older than 65 years in total farm holders in NUTS3 regions of the NMS, 2005



Source: Author's calculation based on Eurostat Regio data (table reg\_a2efarm)

Note: Average and variation coefficient unweighted.

The highest share of sole holders >65 years have Romania (44%), Bulgaria (42%), and Slovenia (34%). There is no direct correlation between the share of elderly farm workforce and the total population aged >65 of the regions (Copus et al. 2006). The share of elderly farm workforce (>65) is often influenced by the pension scheme in the respective countries. In some CEE countries like Romania, pensions are too low for many pensioners to make their living and they have to seek additional income e.g. in agriculture (European Commission, Network 2003). Contrary to the pension systems, experience in the EU15 countries shows that the accompanying measure "early retirement" seems to have had a rather limited impact on the structural and generational change in agriculture (Copus et al. 2006). Measured in AWU, the share of holders >65 years in the NMS was almost



5%-points lower compared to the share measured in persons indicating that old people are in general more involved in part-time work. However, there are huge country-specific differences. In several countries, the share of holders >65 in AWU is only slightly lower (Slovakia, Latvia, the Czech Republic, and Lithuania) or even higher than in persons (Cyprus, Estonia, and Bulgaria) whereas it is much lower in Poland and Malta.

The share of sole holders below 35 years is lowest in Bulgaria, Slovakia, and Slovenia (<5%) and highest in Poland and the Czech Republic (>10%). Measured in AWU, the share of holders below 35 years is on average in the NMS 1%-point higher than the share measured in persons indicating a slightly lower involvement of young sole holders in part-time work. However, there are six countries, where the opposite is the case (Baltic States, Romania, Bulgaria, and Cyprus).

In the EU15 countries, the share of farm holders above 65 has been increasing in most countries since 1990 (particularly in Southern Europe), whereas the share of young farm holders decreased in all countries (Copus et al. 2006). For the NMS, where time series are lacking, similar tendencies since 1989 can be assumed as reported by a Czech study (Horská, Spěšná, Drlík, Koutný and Rättinger 2004). Thus, one of the main ways of adjustment of agricultural employment is through "non entry" into the sector by young people and heirs to a farm especially on smaller holdings. Holders and farm workers of the older age groups, which are increasingly overrepresented in the agricultural workforce, have only limited possibilities to find work outside of agriculture, particularly if they have also poor (vocational) education and non-farm working experience. Agricultural restructuring can be facilitated by these age groups mainly by retiring. In many CEE countries, the low educational level and the rather old age structure of agricultural labour hamper the necessary restructuring process (Juvančič and Erjavec 2003, Bojnec, Dries and Swinnen 2003, Rizov and Swinnen 2004, European Commission, Network 2004). However, the high share of holders above 65 years in many regions shows that the issue of too many farmers could naturally "pass away" within a generation when older farmers retire provided their children do not take over the farm. The influence of the present age structure on the future development of the number of the persons employed in agriculture can be demonstrated by the results of a study for Germany: The projection of the regular agricultural labour force by means of demographic models revealed a reduction of -60% between 2001 and 2021 due to the existing age patterns provided that the present behaviour of entry and exit does not change (Fasterding and Rixen 2005).<sup>13</sup> However, because of a lack of opportunities or ability to work elsewhere in the economy, young people may be forced to enter the sector in many peripheral rural regions of the NMS.

#### 4.3 Farm size structure

One of the most characteristic features of agriculture in CEE is undoubtedly the dual farm structure. On the one hand, there are many small farms with very small plots, which are often subsistence or part-time oriented, and on the other hand, there are very large enterprises with considerable plot sizes. Data collected by the Network of Independent Agricultural Experts in the CEE Candidate Countries around 2000 showed that the farms <5 ha dominated in number (82% of the holdings), but not with regard to the share of used farmland (27%), whereas holdings >50 ha had a share of 1% of holdings, but 38% of

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<sup>13</sup> The model used the calculated relative frequency of net inflow and outflow in and out of the respective age groups for the base period 1999 to 2001.

cultivated land (European Commission, Network 2004). On average in 2005, 83% of holdings in the NMS had a size <2 ESU<sup>14</sup> (compared to 30% in EU15), 13% of holdings had a size of 2-8 ESU (compared to 31% in EU15), and 0.2% of holdings had a size >100 ESU (compared to 5% in EU15).

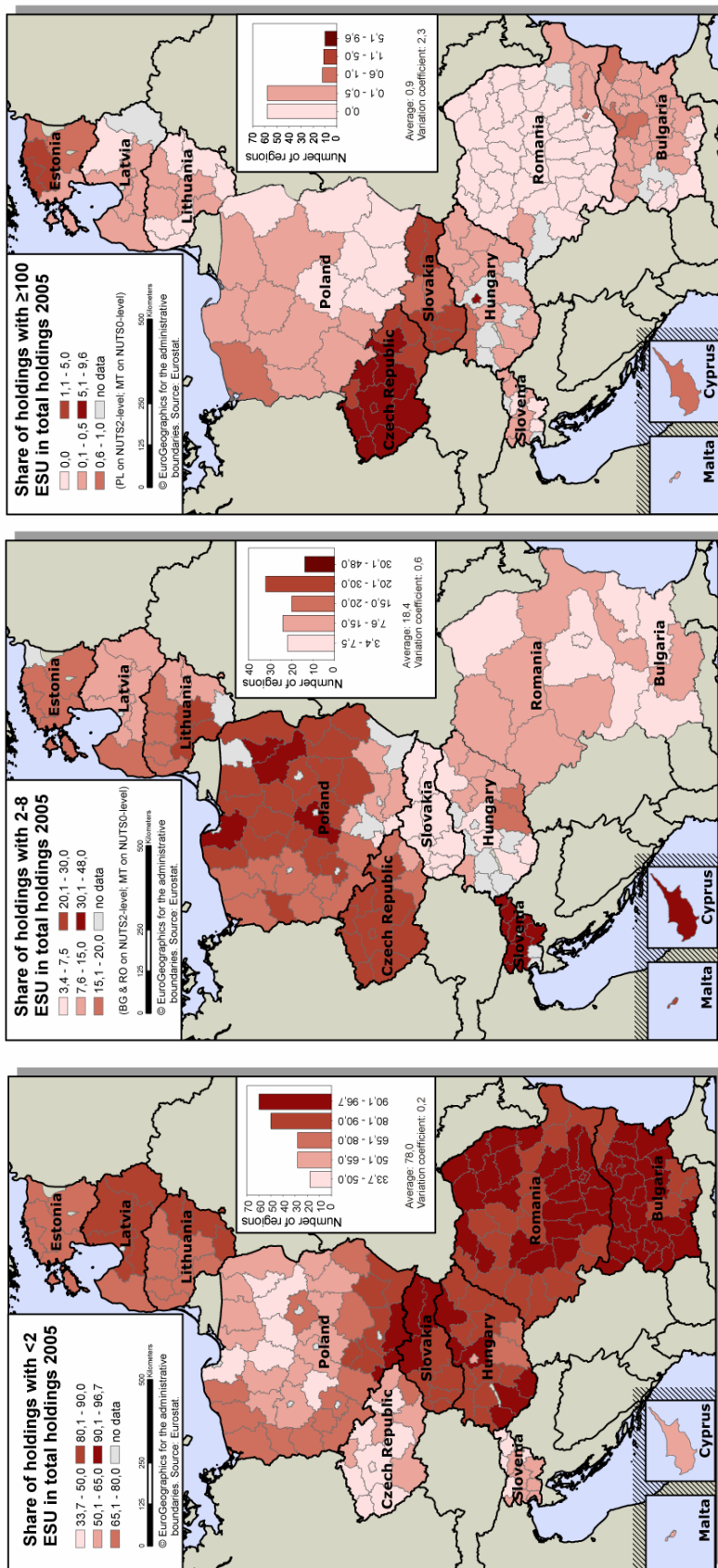
In some countries, the privatization process led to an extremely high fragmentation of land and a particularly high share of small (semi-subsistence) family farms. Thus, in Bulgaria, Romania, Slovakia, Hungary and Latvia, the share of holdings <2 ESU exceeds 85% (see Map 4.3). In Poland and Slovenia, the private sector was already important before the transition in 1989. Both countries have a significant share of holdings between 2 and 8 ESU along with the Czech Republic. Poland, however, is to some extent split into two areas; North Western Poland has also a significant share of larger enterprises, whereas South Eastern Poland is rather characterised by very small plots. In the Czech Republic, Slovakia, and Estonia, large (corporate) farms continued to be an important feature in farm structure. Holdings >100 ESU have a share of above 1% in these countries besides regions in North Eastern Bulgaria, North Western Poland, and Northern Hungary, while they are almost completely missing in Romania, South Eastern Poland, South Western Bulgaria and parts of Lithuania, Latvia, and Slovenia (cf. also Goetz, Jaksch and Siebert 2001). Cyprus and Malta, which are characterised by very high shares of vegetables and permanent crops in the total utilized agricultural area, have also a relative high share of holdings <2 ESU (around 60%), however, they are already closer to farm structures of other Southern EU countries (particularly Portugal).

Duality of the farm sector calls for a differentiated policy support for structural adjustment. The small farms may be an advantage in the short term due to their role as a social buffer, but in the long run, they will have to adjust if they want to keep up with income development elsewhere in the economy (European Commission, Network 2004).

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<sup>14</sup> A European Size Unit (ESU) is a measure of the economic size of a farm business based on the gross margin imputed from standard coefficients for each commodity on the farm. The application of these standard coefficients results in the Standard Gross Margin (SGM) for a farm or group of farms. 1 ESU = 1200 SGM. The Standard Gross Margin may be different from actual margin on a farm because of the wide variation between farms with the same physical composition. 1 ESU roughly corresponds to either 1.3 hectares of cereals or 1 dairy cow or 25 ewes or equivalent combinations of these (Department for Environment, Food and Rural Affairs of the United Kingdom 2004, [http://statistics.defra.gov.uk/esg/asd/fbs/sub/europe\\_size.htm](http://statistics.defra.gov.uk/esg/asd/fbs/sub/europe_size.htm)). See also Decision 85/377/EEC.

Map 4.3 Farm structure by size in NUTS3 regions of the NMS, 2005



Source: Author's calculation based on Eurostat Regio data (table reg\_a2efarm)

Notes: Average and variation coefficient unweighted.

#### 4.4 On-farm diversification

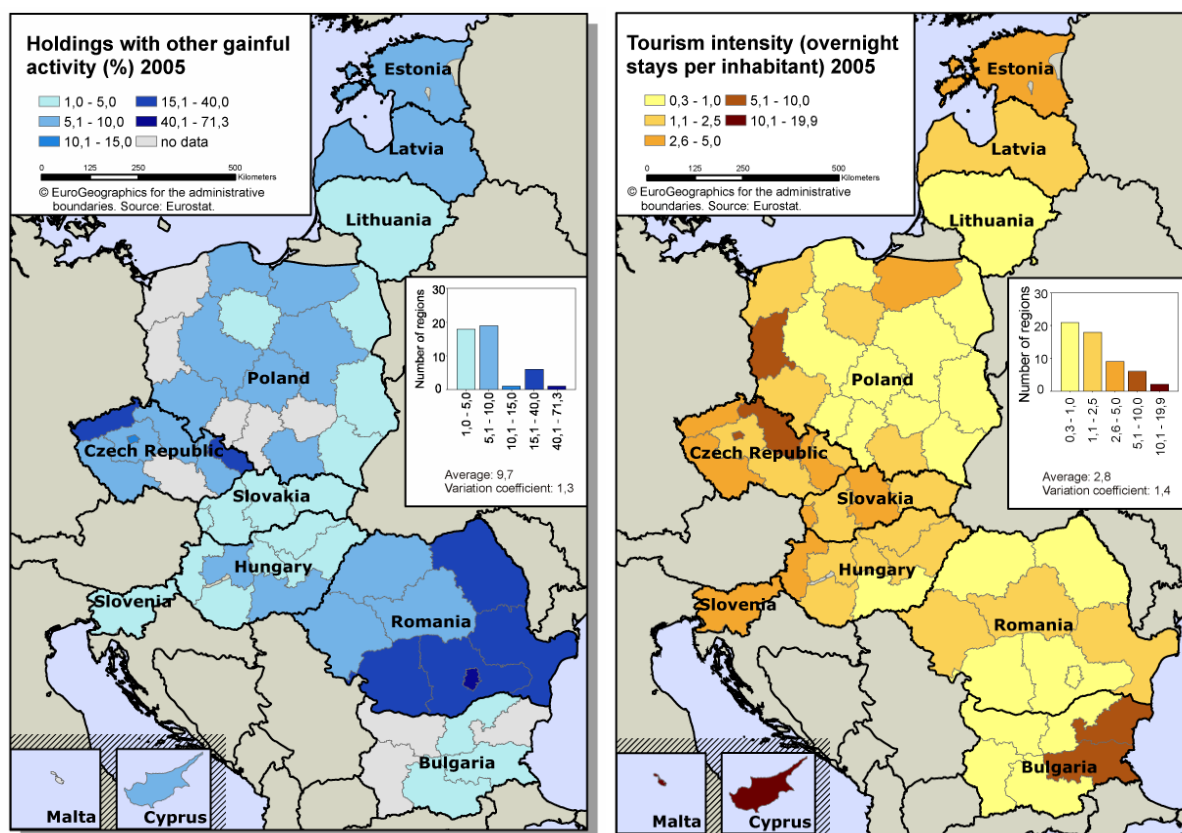
Diversification of farm households can be an important contribution to create the urgently needed non-agricultural employment in rural areas. On-farm diversification tends to absorb underemployed farm household labour (and thereby to reduce hidden unemployment) rather than creating new jobs for non-family labour. In 2005, the share of agricultural holdings with other gainful activities<sup>15</sup> in the NMS was on average 13% (compared with 10% in the EU15). However, this figure is strongly influenced by the huge amount of small holdings with other gainful activities in Romania (22%). In all other countries, this share does not reach 10% with the exception of the Czech Republic (11%). It is particularly low in Lithuania (1%), Bulgaria, Slovakia (both 2%), Slovenia, and Malta (both 4%) (see Map 4.4).

One of the most cited and most obvious forms of on-farm diversification is agritourism<sup>16</sup>. The growth of spending on leisure and recreation activities has significantly boosted the size and importance of the rural tourist industry in Western Europe (Copus et al. 2006), thus resulting in high shares of holdings with tourism in the United Kingdom, Austria, Germany, and other EU15 countries (see Figure 4.4). In the NMS, many hopes have been connected with tourism for the development of rural areas (cf. European Commission, Network 2004). However, the agritourism has not yet been very developed in the NMS. On average, 0.2% of holdings in the NMS have diversified into tourism (compared with 2% in EU15). Most countries and regions have a negligible share of holdings with tourism below 0.5%. Exceptions are Estonia, the Czech Republic, Slovenia, Latvia, and Masuria in Poland with a share around 1%. A similar situation can be assumed for overall rural tourism (not only on farms, but including hotels, guesthouses, holiday dwellings, campsites in rural areas). The tourism intensity, i.e. the number of overnight stays per inhabitant in 2005, was in most of the NUTS2 regions in the NMS below 2.5 (see Map 4.4). Exceptions are regions at the Mediterranean and Black Sea (Cyprus, Malta, and Bulgaria); however, this kind of coastal tourism, which takes generally place in tourism resorts, cannot be classified as *rural* tourism. Rural regions with higher tourism intensity between 2.6 and 10 can be found in Western Poland, Masuria and Western Hungary as well as in mountainous parts of the Czech Republic (Erzgebirge, Bohemian and Giant Mountains), Slovenia (Alps), and Central Slovakia (Lower Tatra).

<sup>15</sup> This includes tourism, handicraft, processing of farm products, wood processing, aquaculture, renewable energy production, contractual work, and others.

<sup>16</sup> The terms agritourism, agrotourism, farm tourism, or rural tourism are not uniformly defined. The term rural tourism is most commonly used for the *total* tourism in rural areas outside of specialised (coastal, mountainous or urban) tourist resorts. It is offered by hotels, guesthouses, holiday dwellings, campsites or farms. Agritourism, agrotourism, or farm tourism is a small part of rural tourism and includes the tourist offers on agricultural holdings. Its role was often exaggerated since it drew the attention of researchers and ministries of agriculture (cf. e.g. Bojnec 2004, Hegarty and Przezborska 2005, Lane 1994).

Map 4.4 Percentage share of agricultural holdings with other gainful activity and tourism intensity in NUTS2 regions of the NMS, 2005



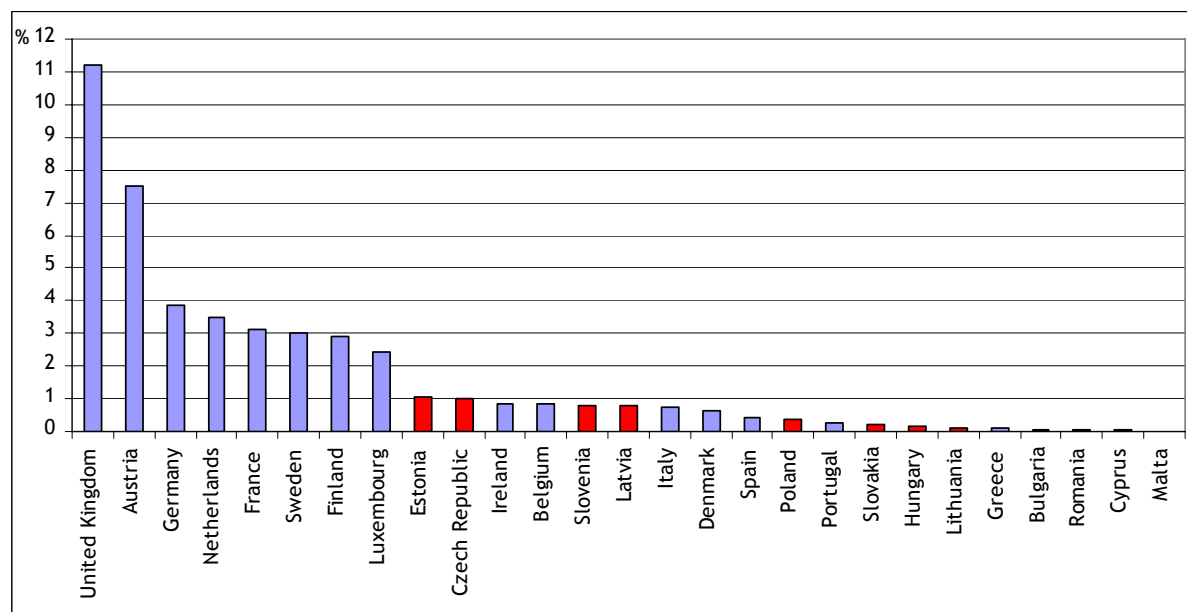
Source: Author's calculation based on Eurostat Regio data (table provided by Pol Marquer, Eurostat E2; tables tour\_occ\_nirn2, tour\_occ\_ninrn2, reg\_d3avg)

Note: Average and variation coefficient unweighted.  
Tourism intensity of Romania: Number of overnight stays 2006 per inhabitants 2005.

Not every rural region is suitable for developing tourism. Therefore, it is crucial to select the regions carefully, to conceptualise the rural tourism realistically and not to raise wrong hopes that tourism could be a panacea for all problems of the rural population. At best, tourism can be an important factor of regional development. The tourism strategy should be embedded in an overall conception of rural development and follow bottom-up approaches (cf. e.g. Fink and Siebert 1998, Gannon 1994, Golembowski and Majewski 2003, Hummelbrunner and Miglbauer 1994, Sharpley 2003, Steinecke and Haart 1996, Thomas and Augustyn 2007, Van der Stoep 2000). The success of tourism turns critically on a number of factors such as the original conditions (e.g., landscape and climate), the derived conditions (e.g., tourist and general infrastructure), the marketing and image of the tourist opportunities, local intra-community cooperation, organisation and management of tourist services, initiative of the rural population as well as external investments (Pieniadz, Baum, Reinsberg, and Wolz 2007).



**Figure 4.4 Percentage share of agricultural holdings with tourism as other gainful activity by country in the EU27, 2005**



Source: Author's calculation based on Eurostat Regio data (table provided by Pol Marquer, Eurostat E2)

Notes: Denmark 2003. Values for Greece, Portugal, Romania and Slovenia include sampling error up to 20%. Values for Bulgaria, Cyprus, and Lithuania include sampling error above 20%.

The development of tourism in rural areas can make positive contributions to regional value creation and employment. However, agritourism prevents the farm family from out-migration rather than creates new jobs for non-family workers (Gerster 1995). Yet, the reduction of hidden unemployment in CEE would be already an important success. So far, the income and occupancy of agritourist farms remain rather low (cf. e.g., Benedek and Dezsi 2001, Bojnec 2004, Fletcher and Cooper 1996). In a case study in Wielkopolska in Poland, only 7% of agritourist farms designated tourism as the main income source. For most of these farms, the tourism-related income was minor, but a high dependency of tourism was often not wanted. The case study showed also that agritourist offers have been frequently developed without any consumer research of the potential tourists primarily with a view to getting additional income. This resulted in the supply exceeding the demand (Hegarty and Przezbórska 2005). In regions with a rather large-scale farm structure, development of agritourism is not very likely, since large farms do not need to diversify, while it is precisely the need for diversification that traditionally drives agritourism, besides new employment opportunities for women. Very small and poor farms can hamper the tourism development as well since they have no additional accommodation to offer (Lane 1994, Nilsson 2002). Rural development measures of the EU could provide positive stimuli for future growth there (Copus et al. 2006).



## 5 CONCLUDING REMARKS

In CEE, transition implicated increasing interregional disparities in income and employment, declassing many of the rural areas to looser-regions with poor economic performance, high unemployment and population decrease, whereas large cities and their surrounding rural areas turned out to be the winners of transition. There are no indications that market forces will regulate these imbalances over time as originally supposed by the governments of the CEE countries. Although these tendencies are observable in all CEE countries, the dimensions of particular problems in rural areas are considerably varying within and across countries. For example, the negative demographic development of rural areas is most severe in Bulgaria, Romania, the Eastern part of the Baltic States, and concerning out-migration also in large parts of Poland, whereas few rural regions in the Southern Czech Republic, Slovenia, and Southern Poland exhibit population growth and a positive net migration rate. Malta and Cyprus are in comparison with the CEE countries generally performing much better. This stresses the well-known issue that rural development measures have to be tailored to the specific regional conditions. This holds also for sectoral agricultural policies since the duality of the farm sector in CEE requires a differentiated policy support for structural adjustment. Deliverable 3.3 ("A typology of rural areas in the new Member States") can help identifying regional types with similar structures and/or problems. Furthermore, the results of the survey (WP4 "Design and implementation of a survey instrument") and the subsequent analysis in the Workpackages<sup>17</sup> of the SCARLED project can provide important insights in the structural adjustment processes of the surveyed regions.

The general finding that the share of agricultural employment is greatest in poorer peripheral rural regions suggests both, a low rate of past adjustment and a lack of alternative employment opportunities. It is probably also the case that the farm labour force has been ill fitted for finding work opportunities in other sectors of the economy especially in the service sector where most growth has occurred. This fact is compounded by the preponderance of rather old workers in some NMS. Low educational status and the rather old age structure of rural population are serious obstacles for the development of (non-agricultural) economic activity, which requires not only the necessary investment means, but also (and perhaps mainly) a degree of innovativeness on the part of inhabitants. Against this backdrop, young people are particularly important for the development of rural areas. However, the high unemployment rates of young people below 25 years in rural areas do not encourage the youth to stay in their home villages. Most of them do not see their future in agriculture and need non-agricultural jobs and training opportunities to be prevented from migration to the city. The development of sustainable rural labour markets and the reduction of agricultural 'over-employment' in the affected regions - particularly in the semi-subsistence sector - will probably need rather general programmes of vocational training, (regional) economic development, social security and housing policies which facilitate non-farm employment and professional migration, than most of the existing EU 'rural development' measures, which however may play an important role in developing competitive holdings and fostering on-farm diversification. Approaches for rural development have to be creative and specific to the individual

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<sup>17</sup> WP5 "Farm structure evolution"; WP6 "Socio-economic functions of subsistence farming and co-operation among farmers", and WP7 "Rural labour markets and diversification of rural economies".

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situation and should not put all one's eggs in one basket as rural tourism, which is often considered as possibility for rural areas, but not suitable for every region.

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