

Current situation and future prospects of rural areas in the Central and East European Candidate Countries

Ländliche Räume in den mittel- und osteuropäischen Kandidatenländern
– Gegenwärtige Situation und Ausblick

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Zusammenfassung

Seit Beginn der 1990er Jahre sind die Disparitäten zwischen ländlichen und städtischen Regionen in den MOEL gestiegen. Trotz einiger gemeinsamer Merkmale bilden ländliche Räume jedoch keine homogene Einheit. Auf NUTS-3-Ebene werden mit Hilfe der Clusteranalyse fünf Regionstypen unterschieden: a) agrarisch geprägte Regionen mit niedrigstem Einkommen und sehr hoher Arbeitslosenrate, b) agrarisch geprägte Regionen mit niedrigem Einkommen, c) durchschnittlich entwickelte Regionen mit mittlerem Einkommen und hoher Arbeitslosenrate, d) industriell geprägte Regionen mit leicht überdurchschnittlichem Einkommen und e) Hauptstadtregionen und andere große Städte mit hohem BIP pro Kopf. Politikmaßnahmen zur ländlichen Entwicklung sollten die Eigenheiten der einzelnen Region berücksichtigen und insbesondere den Aufbau regionaler Institutionen, die Wettbewerbsfähigkeit des Agrar- und Ernährungssektors, nicht-landwirtschaftliche Erwerbsquellen sowie Pendlerbewegungen und Migration einbeziehen.

Schlagnworte: ländlicher Raum, Regionalpolitik, Clusteranalyse, MOEL

Summary

Since the early 1990's, disparities between rural and urban regions in the CEEC have increased. However, despite some common characteristics, rural areas cannot be considered homogeneous. By means of cluster analysis on NUTS-3 level, five types of regions are identified: a) agrarian lowest-income regions with very high unemployment, b) agrarian low-income regions, c) average developed middle-income regions with high unemployment, d) more industrialized middle-income regions and e) capital regions and other large cities with a high GDP per capita. Rural development policies should consider the peculiarities of specific regions and particularly address institution building at the regional level, the competitiveness of the agri-food sector, non-agricultural income sources, commuting and migration.

Keywords: rural areas, regional policy, cluster analysis, CEEC

1. Introduction¹

Rural areas are often associated with high environmental values, but even more with backwardness in terms of income and employment opportunities, migration of young, skilled people, low population density and insufficient technical, social and cultural infrastructure. In addition to these problems, which are characteristic for many rural areas in the world, those in Central and Eastern Europe also have had to cope with the transition from socialist central planning systems towards a democratic society and market economy. In the socialist era, regional policies involving local actors and institutions played an insignificant role in the Central and Eastern European Candidate Countries (CEEC). In the course of preparing for EU membership and for adopting the EU rural development and structural policies, rural areas have gained more interest in the CEEC. In order to efficiently pursue the goal of reducing interregional disparities, which is laid down in the Treaty Establishing the European Community, it is necessary to distin-

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guish rural areas, which can, despite some common features, not be considered homogeneous. Thus, this paper identifies – after a short discussion of the definition problem and some more general characteristics of rural areas – different groups of NUTS-3 regions by means of cluster analysis using regional statistical data from EUROSTAT. The paper concludes with policy recommendations.

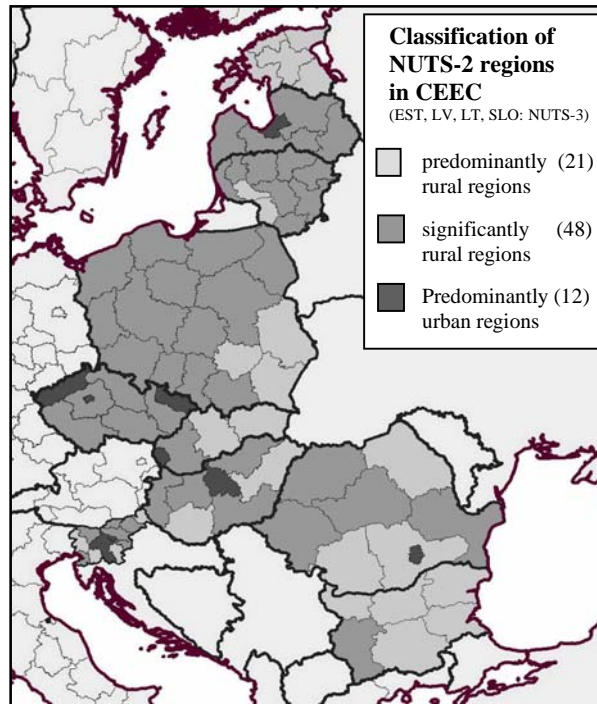
2. Definition and main characteristics of rural areas

Although the term "rural area" is often used in policy circles as well as in the scientific community and public debates, there is no unequivocal definition. During the last decades, the differences between rural areas have grown due to structural changes in agriculture and a growing share of the rural population not relying on agriculture as an income source (cf. MCDONNAGH ET AL. 2001). Thus, rural areas should not just be defined as the opposite of urban, densely populated areas. Rather, they should be further differentiated in order to take care of their particular characteristics. Since there is no commonly accepted definition, there is also no standard typology. Depending on the question investigated, there are various ways of classification (WINDHORST 2000).

One simple definition of rural areas, which shall be used as a basis below, was developed by the OECD (1994) for making international comparisons of rural conditions and trends (for other definitions see e.g., BARTHELEMY and VIDAL without year or EC 1997). The only criterion used is population density. At the local level (NUTS 5²), communities are regarded as rural if they have a population density below 150 inhabitants/km². At the regional level (mainly NUTS 3), the OECD distinguishes three main categories, depending on the share of the regions' population living in rural communities: *predominantly rural regions* (>50% of the population living in rural communities), *significantly rural regions* (15-50%) and *predominantly urban regions* (<15%) (EC 1997). Taking the population density as the only criterion is not unproblematic. Densities vary enormously across European countries. A certain threshold, which might be appropriate to more densely populated countries like the Czech Republic or Poland include even larger towns in sparsely populated countries like Estonia or Lithuania. Moreover,

² NUTS = Nomenclature des Unités Territoriales Statistiques.

functional and structural aspects of rural areas are not included in this



Map 1: Classification of regions according to their rurality

Note: The number of regions in each category is given in parentheses. Source: NETWORK (in prep.).

definition. However, the more complex is the definition, the higher are the data requirements. Thus, despite the shortcomings of the OECD definition, it fulfils its task to enable rough comparisons across countries. In order to address rural policy issues, various ways of defining rural areas in several countries seem nevertheless to be more reasonable.

Applying the OECD definition for NUTS-2 regions in the CEEC (Baltic states and Slovenia: NUTS 3) reveals the following pattern (see Map 1): Predominantly rural regions are prevalent in Bulgaria and Estonia. Furthermore, they can be found in Romania, Hungary, E-Slovakia, SE-Poland, Slovenia and Lithuania. Predominantly urban regions are the capital regions and industrial areas of the Czech Republic. The remain-

ing regions belong to the medium category. According to this classification, 34% of the total area and 28% of the total population belong to predominantly rural regions; including the significantly rural regions, the shares increase to 97% of the area and 90% of the population. However, these shares strongly depend on the NUTS level used. Looking at local communities (NUTS 5), rural areas account for only 86% of the total area (urban 14%) and 43% of the total population (urban 57%).

The statistical analysis of these three OECD categories, as well as a literature review (e.g., FDPA 2002, FROHBERG and ABELE 2002, KOLARSKA-BOBINSKA ET AL. 2002, NETWORK in prep., QUAISSE 1998, SIEBERT 2001) disclose the main generalised characteristics of rural areas in the CEEC:

- a low GDP per capita (in significantly rural areas it averages only ca. 57% of that in urban areas in 2000);
- a low population density (on average 69 inh./km² in predominantly, and 95 inh./km² in significantly rural areas) which induces few incentives for investment and difficulties in providing sufficient infrastructure;
- an unfavourable age structure of the population (high proportion of people aged 0-19 as well as 60 and over to those between 20-59) due to higher birth rates and out-migration of young, skilled people (not only since 1990's, see e.g., BROWN and SCHAFFT 2002);
- still high dependence on agriculture, problems in processing and marketing of agricultural products and low cereal yields (2.5 t/ha in predominantly, and 2.9 t/ha in significantly rural areas) as a proxy for agricultural productivity;
- lacking non-agricultural income opportunities and high unemployment (15.2% in predominantly, and 13.4% in significantly rural areas compared to 7.0% in urban areas);
- low educational level (e.g., 25% of the population between 25 and 59 in predominantly rural have a low educational level areas compared to 13% in urban areas), lacking human capital (e.g., entrepreneurial skills) and deficient capital hamper people from establishing their own business.

Disparities between urban and rural regions in CEE – e.g., in terms of GDP per capita (p.c.) – show a growing tendency. The ratio of the poorest NUTS-3 region of the respective country (in all cases rural areas) to the richest region (always the capital) increased from 1 : 2.6

(1995) in CEEC-10 to 1 : 3.1 (2000), which is similar to the EU average in 2000 (1 : 3.3).³ The values are highest in Poland (1 : 5.4 in 2000), Latvia (1 : 4.3), Hungary (1 : 3.5) and Slovakia (1 : 3.1), whereas Slovenia has a rather homogeneous structure (1 : 1.7). Measuring the disparities by variation coefficient, regional disparities are most pronounced in Latvia (0.51 in 2000), Poland (0.45) and Slovakia (0.41) and the regional disparities in the CEEC-10 (0.46 in 2000) appear stronger than in the EU-15 (0.36). In six Candidate Countries, the disparities have clearly increased between 1995 and 2000, while they stayed more or less constant in the remaining four (Hungary, Slovenia, Romania, Bulgaria). The rising disparities are not caused by an absolute decline in GDP p.c. of the poorer regions. Rather, they could not keep pace with the quick growth of the capitals.

3. Classification of NUTS-3 regions in CEE

The design of policies aiming to improve the socio-economic situation in rural areas and thus reducing interregional disparities requires specific types of regions to be identified. In this section five different groups are presented as the result of a cluster analysis.

3.1 Methodology and data

The aim of a cluster analysis is to "partition a set of observations into a distinct number of unknown groups or clusters in such a manner that all observations within a group are similar, while observations in different groups are not similar" (TIMM 2002, 515). We applied the Ward method with the squared Euclidian distance to cluster the regions in the CEEC. Due to data availability, we had to restrict our analysis to the 177 regions on NUTS-3 level (NUTS 2 in the case of Slovenia). This allowed to include seven demographic, agricultural and macro-

³ These figures tend to overestimate regional disparities, despite using purchasing power parities. Whereas these adjust for differences in the purchasing power between countries, they do not take into account regional differences within a country.

economic variables⁴ which are spatially differently distributed and reflect important aspects of regional development.

3.2 Results

Five clusters are identified as the most adequate result of the NUTS-3 analysis (see Table 1 and Map 2):

- **Cluster A: Agrarian lowest-income regions with very high unemployment** (wide parts of Bulgaria and one region in E-Latvia):

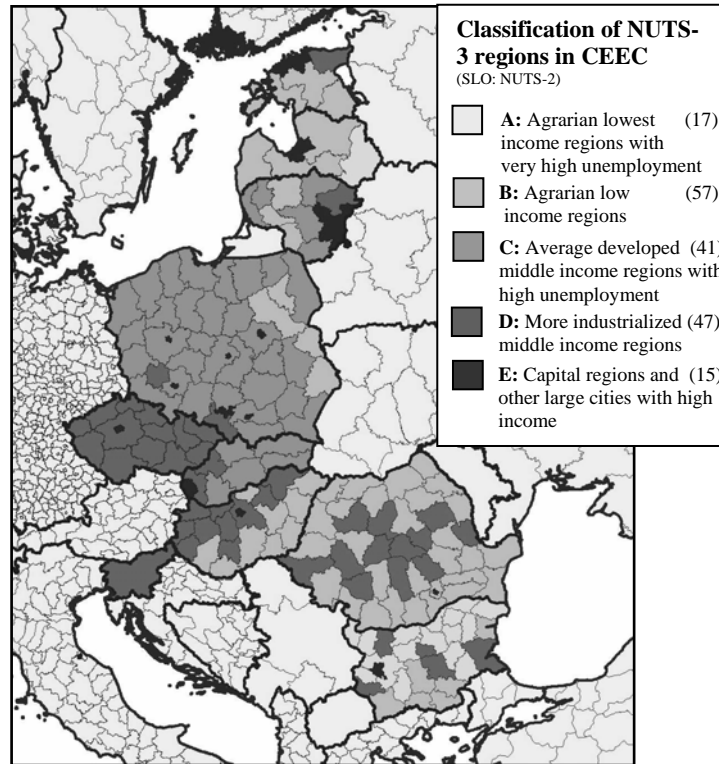
These sparsely populated regions (unweighted average: 57 inh./km²) are located particularly in the Northern part of Bulgaria, which is the most important farming area in that country. All over Bulgaria, agriculture still plays an important role. In 2000 this sector accounted for 14.5% of the total GDP and 25.7% of total employment. For many households in rural areas, subsistence farming is a means of survival. Around one quarter of the total agricultural area in 1999 was used by small individual farms or household plots which farmed, on average, only one hectare. The standard of living is very low, and poverty peaked in 1997 with about 41% of the rural population being poor (World Bank 1999). This cluster contains those regions of Bulgaria where the situation is worst. The GDP p.c. is very low (PPP 4,739) and the high share of agriculture (26.0%) in total value added (TVA) is connected with very high unemployment (29.0%). The share of industry in TVA is low (21.3%). A tendency of out-migration likely explains the high share of people aged 60 and over (23.1%).

⁴ Population density 2000, crude birth rate 2000, crude death rate 2000, GDP p.c. 2000 (purchasing power parities), unemployment rate 2001 (%), share of value added of industry and of agriculture in total value added 1999 (ROM 1997) (%). All standardised by Z-transformation and provided by EUROSTAT¹ Newcronos Regio database.

Table 1: Characteristics of the 5 clusters and of all regions

Cluster (no. of regions)		Included in the cluster analysis							Additional information ⁵⁾	
		Population density [inh./km ²]	Crude birth rate	Crude death rate	GDP per capita [PPP]	Unemployment rate [%]	Share of value added of industry [%]	Share of value added of agriculture [%]	Share of value added of services [%]	Share of population aged 60 and over [%]
		2000	2000	2000	2000	2001	1999 ¹⁾	1999 ¹⁾	1999 ¹⁾	2000 ²⁾
A (17)	AV ³⁾	57.2	8.8	16.0	4739	29.0	21.3	25.8	52.9	23.1
	VC ⁴⁾	0.29	0.13	0.13	0.16	0.21	0.35	0.40	0.16	0.15
B (57)	AV ³⁾	71.9	10.4	12.0	5390	10.0	31.0	22.4	46.5	19.5
	VC ⁴⁾	0.45	0.13	0.17	0.27	0.60	0.17	0.44	0.24	0.12
C (41)	AV ³⁾	96.7	10.3	9.0	7378	21.0	35.0	7.1	57.9	16.4
	VC ⁴⁾	0.37	0.11	0.11	0.15	0.19	0.13	0.38	0.10	0.10
D (47)	AV ³⁾	107.0	9.4	12.0	8.895	10.0	45.9	9.2	44.9	18.7
	VC ⁴⁾	0.47	0.11	0.17	0.30	0.60	0.10	0.60	0.16	0.13
E (15)	AV ³⁾	2162.9	8.0	11.0	15757	9.0	27.5	0.8	71.8	18.1
	VC ⁴⁾	0.99	0.09	0.18	0.38	0.56	0.24	1.25	0.09	0.12
All (177)	AV ³⁾	262.8	9.8	12.0	7597	14.0	34.7	13.8	51.5	18.8
	VC ⁴⁾	3.19	0.14	0.17	0.50	0.64	0.27	0.79	0.23	0.15
CEEC-10	AV	97.0	9.7	11.0	8694	13.1	34.6	6.3	59.1	18.1
EU-15	AV	118.7	10.7	9.9	22602	7.6	27.7	2.1	70.3	21.8 ⁶⁾

Notes: ¹⁾ H 1998, ROM 1997. ²⁾ H, LV 1999, EST 2001. PL: no data on NUTS-3 level, thus values of NUTS-2 regions used for the respective NUTS-3 regions ³⁾ Unweighted arithmetic mean value. ⁴⁾ Variation coefficient. ⁵⁾ Not included in analysis. The share of value added of services is indirectly considered since it adds up to 100% with the shares of agriculture and industry. Data on the share of population 60+ are missing for some regions. ⁶⁾ Projection of 1995 (EUROSTAT). Sources: Authors' computations based on EUROSTAT's Newcronos Regio data; EUROPÄISCHE KOMMISSION (2002).



Map 2: Clusters of NUTS-3 regions in CEEC-10

Note: The number of regions in each cluster is given in parentheses.

Source: Authors' computations based on EUROSTAT's Newcronos Regio data.

- **Cluster B: Agrarian low-income regions** (wide parts of Romania, SE-Hungary, E-Poland, parts of Bulgaria, Estonia, Latvia, Lithuania):

This cluster contains regions which are characterised by a high economic importance of agriculture (share in TVA 22.4%) and a comparatively low income p.c. (PPP 5,390). In contrast to cluster A, this group has, on average, both a higher GDP p.c. and share of industry in TVA, as well as a lower unemployment rate (10.0%) and crude death rate (12.0). The unemployment rate shows, however, a high dispersion within this cluster (between 3% in NW-Romania and 28% in S-Bulgaria). Although being altogether an agrarian cluster, the structure of the agricultural sector is rather heterogeneous: In total

Romania, in which nearly half of the regions of this cluster are located, e.g., 44% of the total employed labour force work in agriculture with an increasing value during the 1990's. High urban unemployment, the prospects of acquiring land which offers the opportunity to produce food for own needs, and low costs of living in rural areas led to reverse migration from urban to rural areas. Romanian agriculture is characterised by a high fragmentation of land and low-input-low-output systems. On the other hand, in total Hungary, (nine regions of the cluster) only 5.3% are employed in agriculture and large co-operatives play an important role.

- **Cluster C: Average developed middle-income regions with high unemployment** (most Polish regions, E-Slovakia, parts of Lithuania): Struggling with high unemployment (21.0%) is the most striking unifying feature of the regions in this cluster. The other variables show more or less average characteristics – except for the low crude death rate (9.0) and the low share of population aged 60 years and over (16.4%). Despite the achieved growth in GDP p.c. since 1993 (after the drastic decline at the beginning of transition) resulting in an average income of PPP 7,378, this economic recovery has generally not led to a comparable growth in (formal) employment (cf. KEUNE 2000). The dismissed agricultural and industrial employees could not be absorbed by a sufficient number of new jobs. The agricultural sector accounts only for 7% of TVA. However, there are also some regions in this group with a share still above 10%. Additionally, in certain Eastern Polish regions, more than one in five is still employed in agriculture. In these regions, farm structure has only slightly changed during the last fifty years and small subsistence-oriented family farms dominate (PETRICK and TYRAN 2001). The most prosperous sector in this cluster is services, which show the second highest share after the group with the capital regions. In 17 out of the 41 regions, services contribute to more than 60% to the TVA. Among these regions are more touristic areas like those in Northern Slovakia and the Baltic coastal regions in Poland, as well as regions with big cities like Kauno and Klaipėdos in Lithuania. In Kauno, the share of services in GVA increased by 9 percentage points between 1995 and 1999, in Slovakia and many Polish regions by 6 percentage points.

- **Cluster D: More industrialized middle-income regions** (Czech Republic, Slovenia, NW-Hungary, W-Slovakia, Central-Romania, NE-Lithuania, NE-Estonia, parts of Bulgaria and Poland):

The main characteristic of this cluster is the high share of industry in TVA (45.9%), whereas the shares of agriculture (9.2%) and services (44.9%) are rather low. Included are regions with a long industrial tradition (like in the Czech Republic), as well as regions which were particularly industrialised during the socialist era (as in Bulgaria). Many of these industrial areas are mono-structured, in a difficult process of diversification and modernisation and have environmental problems. Unemployment rates are locally high. An example is Upper Silesia in S-Poland with mining, coal, iron and steel industries (c.f. FÖRSTER 1999), where the unemployment rate accounts for 25%. Regions in North Bohemia, Bulgaria, Slovakia, Estonia and Latvia also have unemployment rates above the cluster average of 10%. Low unemployment rates below 10% are likely caused by the size of regions which not only cover the locally concentrated industrial sites, but also large agricultural areas, as in Hungary. Moreover, in Romania, unemployment rates are generally low because of the low incentives to register as unemployed, the importance of small family farms for employment and measures like shortened work schedules. Some regions – such as Gliwice in the Western part of Upper Silesia – have been to some extent successful in industrial restructuring. Business start-ups, foreign direct investments (FDI, e.g., in the automobile industry) and the expansion of motorways and educational institutions contributed to a more positive development (DOMANSKI 1998). In general, the "more industrialised middle-income regions" have a better infrastructure and educational level, higher population density, and a higher GDP p.c. (PPP 8,895) than agrarian regions.

- **Cluster E: Capital regions and other large cities with high GDP p.c.**

This cluster includes those regions which have benefited most from the transition process – the capitals and other big cities with an increasing high income (PPP 15,757), a high share of services in TVA (71.8%), a rather low unemployment rate (9.0%), a well-developed infrastructure and a high population density (2,163 inh./km²). In general, the capital regions have been rather successful in attracting

FDI.⁵ Since the beginning of transition, the disparities between the booming capitals and the rest of the countries have increased in most cases. This corresponds to the priority of macroeconomic growth over regional balance in the CEEC. Although the capitals and large cities are the most prosperous regions, they are also confronted with problems. Derelict buildings in the downtown area or an increasing social polarisation within the city are examples of difficulties as, for instance, in Budapest (WIEßNER 1999). Suburbanisation starts to take place, from which the regions surrounding the big cities benefit (see e.g., BROWN and SCHAFFT 2002 for Hungary).

3.3 Critical assessment of the cluster analysis and further research

The cluster analysis of NUTS-3 regions in the CEEC revealed five different types of regions: three are largely rural (cluster A, B and C), one incorporates both rural and especially industrialised urban areas (D) and one covers only large cities (E). In order to design policy measures adapted to the peculiarities of regions, a more detailed cluster analysis – on a more disaggregated regional level (NUTS 4 or even 5) including additional variables like farm structure, efficiency or employment – proved to be necessary. Therefore, the problem of data availability has to be solved. However, this cluster analysis at the NUTS-3 level with seven variables already provides interesting insights in several types of regions with their specific problems and differences in development. A further cluster analysis including, additionally, the EU-15 Member States can show the similarities of and differences between rural areas in Europe. First results of such a cluster analysis on NUTS-2 level with 12 variables indicate a tendency to separate the CEE regions from those of the EU (BAUM and WEINGARTEN 2003).

⁵ E.g., in Slovakia 60% of the total FDI was invested in Bratislava in 1995 (SMITH and FERENCIKOVA 1998). In Hungary the strong concentration of FDI on Budapest (62%) and other Northwest regions has fallen since 1995 (FASSMANN 1997, SAILER 2001).

4. Policy recommendations and future prospects of rural areas

In the following, four general policy fields are briefly discussed which should be considered for rural policies. They have, however, to be adjusted to the specific strengths and weaknesses of a particular region.

- **Developing the institutional framework for a comprehensive regional policy for rural areas**

Rural areas need to receive more attention within their countries. The institutional framework necessary for the development and implementation of a comprehensive policy for rural areas has to be strengthened, particularly at the local and regional level. EU pre-accession aids enable rural areas to participate in the SAPARD program and later in the structural funds and the LEADER programs. However, without taking appropriate steps, poorer and remote regions may turn out to be unprepared to absorb large funds from the EU (FDPA 2002). Besides external support for rural areas, local grassroots activities are crucial. Passive expectations addressed to the government should be overcome (KOLARSKA-BOBINSKA ET AL. 2002).

- **Improving the competitiveness of the agri-food sector**

In general, the importance of agriculture declines with the economic development of countries. Nevertheless, in the medium term, agriculture will still play an important role in most of the rural areas in CEE. Despite certain success in transforming the agri-food sector since the early 1990's, further progress is necessary to improve the competitiveness of this sector. This includes the modernisation of farms and processors as well as the specialisation and intensification of agricultural production. Also, the institutions necessary for functioning markets are still not all in place. However, there are large differences across countries and regions. Improving the competitiveness will not be possible without reducing agricultural employment, particularly in Romania, Bulgaria and Poland.

- **Supporting the creation of non-agricultural income sources**

Due to the falling significance of agriculture, off-farm income sources will become more and more decisive for socio-economic welfare in rural areas. Important factors for stimulating local entrepreneurship, as well as FDI, are among others, an "investor-friendly" atmosphere, stable macro-economic conditions, and the enhancement of physical

infrastructure and education. Better access to loans, as well as tax privileges, can support the development of specific regions. However, the efficiency of these measures has to be investigated carefully. Nearly all CEECs hope that (agro-)tourism will help to create alternative income sources in rural areas (NETWORK in prep.). For most of the regions, however, these hopes are probably not quite realistic, since tourism is a global, highly competitive market. In addition, the development of the necessary basic infrastructure is hampered by a lack of capital. It is likely that only in certain areas with favourable conditions can (agro-)tourism play an important role. Tele-working is another sector which is often seen as a general chance for peripheral regions – as well as in the EU. However, there is evidence that this positive expectation has not been justified (c.f. WINDHORST 2000).

- **Facilitating commuting and migration**

Despite developmental measures, it is "a fallacy to imagine that sufficient non-farm jobs can be created in rural areas to absorb those exiting the agricultural sector" (FDPA 2002, 96). Both inward investment and local businesses needed for job creation are rare, because the former further concentrates mainly on major cities and the latter lacks capital. Thus, commuting, which has been a long established and growing practice in CEE, should be further supported, e.g., by improving the transportation infrastructure. Promoting migration could also be a strategy, although it is often seen as counteractive to rural development. The current geographical distribution of the population e.g., in Poland "is far from being the end point of the transition process. ... more people live in remote, rural locations than their local economies are capable of supporting" (FDPA 2002, 100).

The future prospects of different types of regions in the CEEC can be assessed as follows: Cities and suburbs (Cluster E) will likely further grow and prosper. Some of the industrially-characterised regions (Cluster D) will probably successfully manage the necessary structural change. The most problems are expected for particularly mono-structured regions. Moreover, environmental problems need to be solved. Agrarian rural areas (Cluster A, B and C) can develop in different ways: Regions with good natural conditions, a favourable farm structure and modern processors will exhibit an intensive and efficient agriculture which will need fewer employees. Some regions will have chances in tourism (e.g., Masuria in Poland or Lake Balaton in Hun-

gary). Other regions will benefit from nearby cities (commuting). In contrast, chances for remote, non-diversified rural areas with poor infrastructure can be assessed to be rather bad. Given the experiences with peripheral areas in Western Europe, it is an ongoing debate whether high financial aid is really able to change the situation in such regions (cf. WINDHORST 2000).

EU accession generally improves the future prospects of rural areas in the CEEC. It enlarges the role of rural development in policy, fosters the establishment of institutions at the regional level, increases available funds and improves the economic situation of farmers by the implementation of the Common Agricultural Policy. Nevertheless, structural changes in the economy, as well as changes in the spatial distribution of population, will and have to continue in future. Future research should analyse, in a more precise way, which measures should be taken and which impacts of regional policy are to be expected.

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