

Migrations and Living Conditions in Candidate Countries: a Regional Approach

*Migrazioni e Condizioni di Vita nei Paesi Candidati:
un Approccio Regionale*

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Riassunto: Il presente studio si riferisce a dieci paesi dell'Europa dell'est di cui otto destinati ad entrare nell'Unione Europea nel 2004 e due (Bulgaria e Romania) nel 2007. L'analisi, svolta a livello regionale (NUTS-2), è volta a mettere in luce l'emergenza di nuove forme di deprivazione associate alla transizione verso l'economia di mercato e ad analizzare la dinamica migratoria in relazione ai diversi contesti socio-economici. Attraverso l'applicazione di differenti metodologie sono state individuate aree critiche di intervento ed è stato possibile individuare quattro gruppi di regioni. In particolare, due di questi appaiono fortemente caratterizzati per i propri contrapposti comportamenti migratori di provenienza e destinazione.

Keywords: Multiple social deprivation; Migration dynamics; Candidate countries; Regional analysis (NUTS 2); Composite indicators; Cluster Analysis.

1. Introduction

This study on migration and living conditions in ten candidate countries (the ones entering the Union in 2004 – except Cyprus and Malta – along with Bulgaria and Romania which will join the EU in 2007) is aimed to analyse the emergence of new forms of deprivation associated with the transition to market economy and to highlight migration dynamics related to different demographic, social and economic variables in this area. It focuses on the 53 regions of candidate eastern European countries in order to individuate critical areas of policy intervention related to EU enlargement. Using Eurostat regional database, different methodologies are applied and several steps of analysis are carried out: the construction of a composite Social Deprivation Indicator (SDI); a correlation analysis; a principal components analysis and a cluster analysis to highlight different groups of regions on the basis of their living condition and migratory patterns.

2. Multiple Social Deprivation in Candidate Countries

With regard to the objective lack of access to social benefits (such as the right of education and health services) and to labour market, multiple social deprivation has been considered as a determinant of migration dynamics. According to the method adopted by the United Nations in creating the Human Development Indicator (HDI),

this section concerns the Social Deprivation Indicator (SDI) based on several objective areas, such as unemployment, health and education. Although the individual's subjective assessment of the different aspects of life is a crucial determinant of general well-being, the objective deprivation is the main purpose of this research.

Partial Social Deprivation Indicators (^pSDI) are obtained on the basis of the long term unemployment rate, the share of population with only primary education and the infant mortality rate, as follows:

$${}^p\text{SDI}_{ij} = Sx_{ij} / V_{ij} \quad (1)$$

$$Sx_{ij} = x_{ij} - \min(x_{ij}) \quad (2)$$

$$V_{ij} = \max(x_{ij}) - \min(x_{ij}) \quad (3)$$

where x_{ij} = basic variable of the j^{th} region, and $i = 1-3$.

The summary indicator for the j^{th} region is:

$$\text{SDI}_j = 1/3 \sum_{i=1}^3 {}^p\text{SDI}_{ij} \quad (4)$$

Partial and composite indicators values could be interpreted as the distance of a region from a reference situation, i.e. the best one among situations covered by the analysis. The region of Prague shows a particularly favourable position among all regions considered and could be seen as a reference area. Table 1 shows a ranking of regions on the basis of the SDI and of the Gross Domestic Product (GDP) *per capita* for regions with the highest difference from the best performing area. Regions in table 1 could be interpreted as the most critical areas among the ones covered by the analysis.

The chosen approach allows to identify critical areas in terms of living conditions, as well as the key elements responsible for social deprivation in each region. Thus, several thresholds could be applied in order to focus on groups of regions characterised by different deprivation severity degrees (to answer the question on “how much are deprived the deprived regions?”).

Table 1: Highly deprived regions*

Region	Unemployment	Education	Infant mortality	SDI	Rank SDI	Rank GDP <i>p.c.</i>
Sud-est(RO)	0.131	0.706	0.920	0.586	49	45
Yuzhen Tsentralen(BG)	0.345	0.882	0.686	0.638	50	49
Severoiztochen(BG)	0.630	0.588	0.702	0.640	51	46
Yugoiztochen(BG)	0.788	0.853	0.899	0.846	52	41
Severozapaden (BG)	1.000	1.000	0.681	0.894	53	47

* Regions falling over 160% of the median value of the SDI distribution.

Knowledge of regional diversity in various areas of social exclusion allows to better understand the main determinants of migratory patterns. As it could be expected the rank and correlation analysis show a negative correlation between the SDI and the crude rate of net migration; specifically, the Spearman's rank correlation and the linear Bravais-Pearson correlation coefficients are respectively equal to -0.38 and -0.37 .

3. Critical Areas on the basis of Cluster Analysis

The migratory dynamics in the “new” regions of Europe can be studied with a multidimensional analysis focusing on different fields of interest in order to single out groups of regions characterized by different living conditions and migratory attitudes.

Nowadays, the central and eastern European countries and, perhaps with more evidence, their regions, are characterised by important and differentiated migratory paths. Some countries show a phenomenon of Regionalisation ⁽¹⁾, some became destination of migratory flows and some others gained the role of “transit” countries [Okòlski, 1998]. In order to study such a complex situation, a principal components analysis associated with a cluster analysis (with SPAD 4.02), is used. The analysis is based on seven variables all referring to the last available year: the share of population between 20 and 60; the share of population over 60; the infant mortality rate; the crude rate of net migration; the share of population between 20 and 59 with a low level of education; the long-term unemployment rate and the quota of employment in the services. Furthermore, the quota of GDP *per capita* has been considered as an illustrative variable. The first three axes explain 73.19% of the total variability. The first axis (37.94%) called “axis of the education” is characterised by the regions with more population between 20 and 60 and with a good level of education on the negative semi axis and the opposite situation on the positive semi axis. The second axis (20.37%) seems to be the one of “migration propensity” ⁽²⁾, characterised by a strong connection between migration rate and long-term unemployment rate ⁽³⁾. Thus, focusing the attention on groups of regions it was possible to draw the geography of the 53 regions. By the results of the cluster analysis ⁽⁴⁾, four groups of regions was singled out presenting peculiar characteristics when compared to the general mean:

1. “Frail regions” with a higher infant mortality rate, a lower level of education, a lower GDP *per capita* and a little quota of employment in services (7 regions, mostly Romania);
2. “Regions with migration propensity” which have lower level of education and less population between 20 and 60 as well as a very negative crude rate of net migration (10 regions, mostly Bulgaria, Hungary and Latvia);
3. “Regions in transition” with a higher level of long-term unemployment, an infant mortality rate slightly lower the average, a not very high level of education and more population over 60 (21 regions, Estonia, Lithuania and a large part of Poland);
4. “Regions of immigration” with a positive crude migration rate - where the general one is slightly negative-, more population between 20 and 60, a higher GDP *per capita*, a good level of education and less long-term unemployment (15 regions, a large part of Czech Republic, Slovenia and other countries).

Group 4, in which better living condition are associated to strong immigration, focus on the characteristic of migration as a resource. On the other side, both group 1 and 2 show frail situations, but only in the second case emigration seems to be a valid alternative.

To better compare the critical areas highlighted by the SDI and the cluster analysis, table 2 shows the regions characterised by extreme patterns in terms of living conditions and migration: regions with low deprivation fall entirely in the cluster 4; conversely,

⁽¹⁾ Regionalisation could be considered a parallel phenomenon of globalisation where migration is concentrated in particular geographical areas in terms of both proveniences and destinations.

⁽²⁾ The concept of migration propensity is strongly related to the “push-pull” model used to focus the main determinants of a migratory process. It’s a combination of factors of expulsion that push people to leave their places of origin and factors of attraction that pull migrants towards more suitable destinations.

⁽³⁾ Furthermore, the third axis (14.88%), measuring “frailty”, shows a high quota of population over 60 associated with low long-term unemployment on one side, and a higher level of long-term unemployment on the other side which is easy to relate to a “younger” population.

⁽⁴⁾ The module SEMIS of SPAD 4.02 has been proceeded. It adopted the Ward method using analysis of variance approach to evaluate distances among clusters. In short, this method attempts to minimize the Sum of Squares (SS) of any two (hypothetical) clusters that can be formed at each step.

almost all regions with high deprivation fall in cluster 1 and 2. The regions “in transition” (cluster 3) are generally characterised by medium deprivation with the only exception of Zápádne Slovensko[SK].

Table 2: *Values of SDI and crude rate of net migration*

	Frail Regions (cluster 1)	Regions with migration propensity (cluster 2)	Regions in transition (cluster 3)	Regions of immigration (cluster 4)
High deprivation (1)	Sud-est[RO]; Centru[RO]; Sud[RO]; Nord- Vest[RO]; Sud-Vest[RO]; Vest[RO]	Severozapaden [BG]; Yugoiztochen[BG]; Severoiztochen[BG]; Yuzhen Tsentralen[BG]; Severen Tsentralen[BG]	Zápádne Slovensko[SK]	
Medium deprivation (2)	Nord-est[RO]	Dél-Dunántul[HU]; Észak-Magyarország[HU]; Észak-Alföld[HU]; Dél-Alföld[HU]; Lettonia[LV]	Moravskoslezsko[CZ]; Estonia[EE]; Lituania[LT]; Dolnoślaskie[PL]; Kujawsko-Pomorskie[PL]; Lubelskie[PL]; Lubuskie[PL]; Łódzkie[PL]; Małopolski [PL]; Opolskie[PL]; Podkarpackie[PL]; Podlaskie[PL]; Pomorskie[PL]; Śląskie [PL]; Świętokrzyskie[PL]; Warmińsko-Mazurskie[PL]; Wielkopolskie[PL]; Zachodniopomorskie[PL]; Stredné Slovensko[SK]; Východné Slovensko[SK]	Yugozapaden[BG]; Střední Čechy [CZ]; Severozapad[CZ]; Stredni Morava[CZ]; Közép-Magyarország[HU]; Közép -Dunántul[HU]; Nyugat-Dunántul[HU]; Mazowieckie[PL]; Bucarești [RO]; Slovenia[SI]; Bratislavský[SK]
Low deprivation (3)				Praha[CZ]; Severovýchod[CZ]; Jihozápad[CZ]; Jihovýchod[CZ]

(1) Regions falling over 160% of the median value of the SDI distribution; (2) Regions falling between 40% and 160% of the median value of the SDI distribution; (3) Regions falling under 40% of the median value of the SDI distribution.

4. Conclusions

Knowledge of regional diversity in various areas of social exclusion and of the way in which diversity may change in the short and medium term is essential in order to adapt supply of social services to demand and to anticipate the degree and the form of social groups' participation in a country's activities.

Furthermore, the existence of a tie between living conditions and migration propensity has been pointed out through rank and factorial analysis. A substantial convergence between the critical regions of the cluster and the ones emerged on the basis of the application of the composite indicator of deprivation has also been shown.

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