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INTERREGIONAL MIGRATION IN ROMANIA DURING THE 1990s[*]

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1. Introduction

Since 1990 the territorial mobility in Romania has recorded a series of particularities determined by major transformations in the political, economic and social life. *The economic disparities already existing between the prosperous and the lagging regions have increased during the transition years*, influenced by institutional renewal, restructuring, privatization, etc. Several regions display higher unemployment rates, lower activity rates, lower incomes per capita and higher out-migration rates compared with the average. These regions have adapted inadequately to the changing economic conditions, such as the decline of various industries (e.g. coal mining in the south part of Romania) and, as a result of this fact, their out-migration has been intensified. In the early 1990s were already noticed widespread regional disparities in terms of labour supply as well as the main demographic indicators.

Starting from this overall image the present paper examines the main changes in the intensity, orientation and territorial distance of *internal* migration flows as well as their structure and the variable influence of the 'push / pull' factors involved in this process. As a preliminary step in the analysis of the main characteristics of interregional mobility in Romania, the most significant zones in terms of their contribution to total national migration have been selected. Population and labour mobility between regions has been studied using a set of indicators calculated for the 1990 – 2000 period: gross and net migration, in- and out-migration rates, in- and out-migration flows for the selected zones, their structure and dynamics and so on. Regression functions, interregional migration tables and gravity models have been mainly employed.

Analysing the results, the economic disparities seem to be the key issue in the question of population and labour mobility, as asserted by the neoclassical theory. Though, its mechanism is not confirmed by a series of concrete situations, such as the intense urban-rural flows, showing that, besides the economic factors, the institutional ones as well as the individual and family motivations are also very important for the persons that decide to migrate. In the next years is expected a decrease in the interregional migration in favour of the intra-regional one. The migration flows from urban to rural areas at the same time with those from rural to rural areas will continue to play a significant role. Finally, the paper discusses the economic policy measures able to reduce the long-distance migration and the intensity of the 'push' factors.

2.   The context of migration in Romania

The general economic situation. For a better understanding of the main features of interregional mobility of population and labour force in the 1990s a presentation of *the general context of Romanian transition* has been considered necessary: labour is a key factor for economic development strategies and is also influenced by economic situation in quantitative and qualitative terms.

The political turmoil in the last ten years made a real advance of reform very difficult, Romania being severely criticised by the EU and international financial institutions for the drawbacks in restructuring and privatization, the incapacity to eliminate losses within the economy, the lack of real changes in public administration. All these phenomena are reflected by the evolution of the key performance indicators between 1990 and   2000 (Table 1).

Table 1

Key economic performance indicators in Romania between 1990 and 2000

Indicator	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Nominal GDP (USD bn)	35.1	28.9	19.6	26.4	31.5	35.7	35.5	34.6	36.8	34.0	36.7
GDP change (%)	-5.6	-12.9	-8.8	1.5	3.9	7.1	3.9	-6.9	-5.4	-3.2	1.6
GDP per capita											
PPP (USD)	na	na	na	na	5550	6210	6630	6330	6050	5970	6240
Industrial prod. change (%)	-19	-22.8	-21.9	1.3	3.3	9.4	6.3	-7.2	-13.8	-8.0	8.7
Unemployment (end-year, %)	0.4	3.0	8.2	10.4	10.9	9.5	6.6	8.9	10.4	11.8	10.5
Average monthly wage (USD)	138.6	97.6	82.6	103.1	109.8	138.3	138.4	121.8	153	127.7	na
Inflation (%)	5.1	170.2	210.4	256.1	136.8	32.3	38.8	151.4	40.6	45.8	45.7
Trade balance (USD bn)	-1.7	-1.3	-1.4	-1.1	-0.5	-1.6	-2.5	-2.9	-3.5	-1.9	-2.7
Foreign direct investment stock (USD bn)		0.0	0.1	0.2	0.6	1.0	1.2	2.4	4.5	5.4	na
Foreign debt (USD bn)	1.2	2.1	3.2	4.2	5.6	5.5	7.2	8.6	9.3	9.2	na
Population (m)	23.2	23.2	22.8	22.7	22.6	22.6	22.6	22.6	22.5	22.5	22.4

Source: *Business Central Europe*, December 2001

Three sub-periods can be identified within this decade, namely: 1990-1992 (the beginning of transition), when the GDP recorded a serious drop; 1993-1996, when a macrostabilisation programme was applied, with positive consequences upon economic growth, unemployment and inflation rate; 1997-2000, when the economic decline (until

1999) represented the first result of the massive restructuring and privatisation process (too much delayed in Romania) undertaken in this period, being followed by a slow recovery starting with 2000.

Within this general context the evolution of population and labour resources expresses *a variety of demographic and social-economic conditions and causes*, closely interrelated. The demographic changes mainly refer to: accelerated fertility decrease, high level of mortality, important increase in out-migration, high share of the aged population (60 years and over), high level of demographic dependency ration, particularly in rural areas. The social-economic causes concentrate on the decrease in the standard of living and quality of medical services etc.

Between 1990 and 2000 total employment diminished by 2.2 million people (from 10.8 to 8.6 million people) whereas the employment rate dropped by 16%. As regards unemployment – very low and hidden before 1990 – it recorded significant levels starting with 1990. Despite some oscillatory variations it displays an upward trend in long run. Thus, in the first phase (1991-1994) it grew continuously, reaching the highest level in March 1994 (11.2%), as a result of the serious economic decline (mainly in industry). The short term recovery thereafter entailed a decrease in the unemployment rate between 1995 and 1996. Since 1997, when the massive restructuring (especially in mining industry and manufacturing) began, at the same time with applying permissive laying off regulations, unemployment re-started to grow until the year 2000 (the beginning of a new economic growth phase).

These evolutions are specifically reflected by the activity rate (active population / total population): between 1990 and 1997 it raised from 47.2% to 52.2%, then diminished continuously until 2000 (51.6%).

Additional aspects can be pointed out by changes in employment structure by age, economic sector, ownership type, professional status. In brief, Table 2 shows the intensity of these changes calculated by means of structural change coefficient[*] for relevant sub-periods.

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[*] The structural change coefficient is the squared root of structural variations recorded for each component of the vector describing the structure of a certain indicator).

Table 2

Intensity of employment structural changes

Factor	Time period	Intensity of employment structural changes
Age	1996-2000	2,00
Economic sector	1990-1992	4,56
	1993-1996	2,63
	1997-2000	4,43
Ownership type	1993-1996	2,94
	1997-2000	9,84
Professional status	1995-1996	1,68
	1997-2000	2,79

Source: Goschin, Z., Pârlog C., Aspecte ale modificării structurilor ocupaționale în România, *Raporturi de muncă*, nr.7, 2002.

The high values of this indicator in all cases demonstrate that the period of the 1990s is characterised by important changes. The most intense one have been recorded by sector and ownership type structure of employment. In general, the structural changes are amplified in economic decline sub-periods (1990–1992 and 1997-1999) whereas they are diminished during the recovery periods. It seems that the economic crisis imposes structural adjustment of employment, able to support the future growth (Constantin et al., 2002).

Regional growth disparities. First, it is necessary to mention that Romania's administrative-territorial structure comprises one regional level – the counties, named "judete", corresponding to NUTS3 level of the EUROSAT (there are 41 counties plus Bucharest municipality) and one local level (cities, towns, communes). Also, according to the Regional Development Act 151/1998 eight development regions, corresponding to NUTS2 level have been established on a voluntary basis (without being administrative units) in order to ensure the regional development policy elaboration and implementation framework. Each region comprises between 4 and 7 counties (excepting Bucharest-Ilfov region).

Regional disparities have been only recently quantified (Green Paper, 1997 and Pascariu et al., 2002). They are much deeper between counties, between rural and urban areas than between regions. This fact requires a multi-level analysis of territorial disparities so as to offer an adequate background for the economic and social cohesion policy.

In general terms the roots of regional imbalances in Romania come from the inter-war period, when the industrial activity was concentrated in a couple of zones, dependent

upon the access to mineral and energy resources as well as to the main transportation routes: Bucharest, Constanta, Prahova Valley, Brasov, Hunedoara, Jiu Valley, Resita, Braila, Galati (Pascariu et al., 2002).

In the communist period the forced industrialization and urbanization resulted in a more rapid development of the lagging zones, particularly in North-East and South-East, reducing regional disparities. After 1989 these zones have firstly suffered the consequences of economic restructuring, leading to a significant increase in the economic and social discrepancies. In terms of regional GDP (revealing the productive capacity of each region) Bucharest-Ilfov ranks first[*] and North-East region the eighth. Between them, closer to North-East rather than Bucharest-Ilfov rank at present – in this order – Centre, West, South-East, North-East, South-West and South.

It has been demonstrated that transition deepens regional disparities since the factors that used to control the economy are replaced by market forces that are gradually freed up. Though, the basic question is whether after a period of growing interregional disparities a process of spatial convergence will start in longer run. This means that the regional problem is not simply a static allocation problem but also one referring to a long-range qualitative conversion phenomenon. Within this context regional labour markets are expected to play an active role.

Regional differences in labour resources and their use. Human potential has *an uneven territorial distribution* in Romania. Thus, the North-East region (including Bacau, Botosani, Iasi, Neamt, Suceava and Vaslui county) has the biggest population and the negative natural growth is a relatively recent phenomenon, whereas the West region (including Arad, Caras-Severin, Hunedoara and Timis county) is characterized by a low number of population and a chronicle negative natural growth.

Significant differences in labour aged population number and dynamics can be noticed not only between regions but also between counties. The highest level of labour resources is recorded in Iasi, Prahova, Constanta, Cluj, Timis, Suceava, Bacau si Dolj county and the lowest in Salaj, Covasna, Tulcea, Ilfov, Ialomita, Giurgiu, Calarasi, Mehedinti and Bistrita-Nasaud county: in general, there is a positive correlation between the economic development level and the level of labour resources.

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[*] Though, GDP per capita in Bucharest-Ilfov region is only 35.3% of the EU average.

In almost all regions labour resources are predominant in urban areas excepting for North-East and South region, which include some of the poorest counties. North-East, South-West and South also record the highest level of the dependency ratio (number of labour aged persons per 1000 persons out of labour age) (see Table 3).

Table 3

Territorial distribution of labour resources in 1999

Region	Labour resources (million people)	Of which, in urban areas	Dependencies ratio ($\permil$)
0	1	2	3
North-East	2,33	48,9	642,0
South-East	1,86	62,0	580,8
South	2,13	46,8	636,0
South-West	1,47	51,6	643,8
West	1,29	65,8	571,6
North-West	1,80	56,6	580,5
Centre	1,69	64,2	559,8
Bucharest-Ilfov	1,49	89,4	512,1
Total	14,08	59,3	595,2

Source: M. Simion, *„Potenţialul uman al României”*, *Analele INCE*, nr. 2-3/2000, p. 30.

Going further, a synthesis of the main characteristics of labour market by development region can be found in Table 4, where the regions are ranked considering the main indicators in this respect. In most of the cases, Bucharest-Ilfov region ranks first, explaining the high intensity of migration flows in this region.

Table 4

Regions ranking according to the main labour market indicators in 1998

Region	Share of labour resources in total population	Employment rate (as against labour resources)	Share of employment in agriculture in total employment	Share of employees in total employment	Unemployment rate	Average monthly wage
Bucharest	1	7	1	1	1	1
Centre	3	3	2	2	3	5
North-West	5	1	5	5	2	7
West	4	4	3	3	6	6
South-East	2	8	4	4	7	3
South	8	5	6	8	4	4
North-East	6	6	7	7	8	8
South-West	7	2	8	6	5	2

Note: For all presented indicators, first rank is the best.

Source: *** *Relansarea creşterii economice în România*, Ed. Economică, Bucharest, 2000, p. 269.

In the first ten years transition determined a generalized diminishing of the use of human capital (the relative decrease in employment was greater then the rate of GDP decrease), significantly differentiated by regional economic structure.

The rate of employment decrease was above the national average in both longstanding industrial traditional zones (e.g. Banat, Transilvania) and zones of industrial structures created in the centralized economy period (Oltenia, Moldova).

In other zones, such as Muntenia, Dobrogea and Lower Danube the rate of employment decrease was slower than the average owing to a compensating flow of employment increase in agriculture (more intense than in other zones) on the one hand and the investment attraction exerted by the two big urban areas that dominate these zones, namely Bucharest and Constanta. They have complex, diversified economic structures, with relatively well developed infrastructure and large business opportunities, enabling then to adjust with good results to changing economic circumstances.

At present the unemployment rate is above the national average of 8.1% in counties like Vaslui and Galati (14.6%). The lowest unemployment rates are recorded by Bucharest and Bihor (3.2%). The territorial distribution of unemployment reflects a tendency of concentration in monoindustrial, poor zones, with an important number of active population at the same time.

Interregional differences in unemployment rate are closely related to labour force migration phenomenon. Over the centralized economy years was recorded a long-term tendency of migration towards industrialized or industrializing zones, whereas the industrial activity decline in the '90s gradually reduced this process.

In the first few years after 1989 the urban-rural migration flows became predominant. These flows contributed in reducing unemployment rate in the origin zones and its increase in the destination ones.

Territorial imbalances might deeper in the future due to the market-based mechanisms. Other countries experience proves the investment attractivity of the developed regions, of long industrial traditions and good infrastructures rather than the disadvantaged zones, with reducing development perspectives.

It is well known that employment question is related to a mix of demographic, economic, educational and social-political factors: though, the economic one is decisive. The main cause of the chronicle unemployment in the '90s is the delay in macroeconomic restructuring and sustained economic recovery. Desindustrialization and reagrarization had a negative impact on employment opportunities in all regions; on the other hand, the service sector still remains underdeveloped, unable to create an important number of jobs.

Though, some favourable evolutions can be noticed: the employment increase in the private sector, professional structure diversification. Also, within the European labour market Romania holds some comparative advantages, in terms of quality-cost relationship. The young labour force potential is bigger in Romania than in EU countries, of a training level compatible with the Western standards.

3. The analysis of interregional migration

Simple indicators of migration. The previous finding with regard to the main orientation of migration flows in the 1990's is supported by the analysis of orientation and intensity of migration flows for the following possible directions: urban-urban, urban-rural, rural-urban and rural-rural (Table 5).

Table 5

The structure of migration flows in Romania in the 1990's
(rate per 1000 inhabitants)

	1991	1992	1993	1994	1995
Total	**11,3**	**12,9**	**10,6**	**11,7**	**12,8**
Urban-urban	10,7	9,4	6,9	6,6	5,9
Urban-rural	4,3	5,8	5,0	5,6	6,1
Rural-urban	4,7	6,3	5,7	6,5	7,8
Rural-rural	2,5	3,8	3,4	4,7	5,8
	1996	1997		1998	1999
Total	**13,0**	**13,4**		**12,3**	**12,3**
Urban-urban	5,9	5,6		4,9	4,7
Urban-rural	6,5	6,1		5,9	6,0
Rural-urban	7,0	7,6		6,4	5,9
Rural-rural	6,7	7,9		7,7	8,3

Source: *Anuarul Statistic al României*, 1999;

România în cifre. Breviar statistic, INS, 2000.

For the analysis to be more relevant, several regional migration indicators have been calculated for the period 1968-1999 at county level, namely out-migration rate, in-migration rate, net migration, net migration rate and gross migration rate.

The lowest level of out-migration rate varied, excepting for 1990, between 0.26% (Bucharest, 1969) and 0.92% (Satu-Mare, Sibiu, 1997). The highest level varied between 1.63% (Olt, 1994) and 3.94% (Hunedoara, 1968). Bucharest municipality is the only one mentioned for both lowest and highest level, but for different years. For the whole period the out-migration rate had an amplitude of 3.68% (from 0.26% to 3.94%).

The lowest in-migration rate oscillated between 0.38% (Giurgiu, 1993) and 0.96% (Iasi, 1971). The highest level was between 1.69% (Bucharest, 1997) and 3.89 (Hunedoara, 1968). In the period analyzed, the in-migration rate varied between 0.38% and 3.89% , the variation amplitude being very close to the out migration rate amplitude. It is also worth to be mentioned that the variation amplitude was decreasing with every year for both indicators.

The lowest level of net migration rate was between -1/26% (Tulcea, 1977) and -0.36% (Maramures, 1995).   The counties of the west frequent minimum level were Vaslui (between -1.16% and - 0.39%) and Hunedoara (between – 0.77% and   – 0.48%). The highest level varied between 0.44% (Timis,   1996) and 1.4% (Bucharest, 1971). The amplitude of variation was 2.66% (from – 1.26 (Tulcea) to 1.4% (Bucharest)). In 1990 both the minimum and maximum level are significantly different from the rest of values.

The lowest level of gross migration oscillated between 1.26% (Giurgiu, 1993) and 2.14% (Bucharest, 1977). Bucharest recorded most of the minimum values (between 1.45% and 2.14%), followed by Giurgiu and Satu-Mare. The highest level varied between 3.03% (Bucharest, 1993) and 7.83% (Hunedoara, 1968). The most of highest values were recorded by Hunedoara county. The other counties had maximum levels very much alike. The amplitude of variations for their indicator is higher than for the others and decreased with every year. For 1990 the absolute minimum level is close to the other values, whereas the absolute maximum level is almost twice bigger than the other maximum values (for each county).

Interregional migration table. Migration between and within Romanian counties has been influenced to a great extent by the general economic development level and the existence of big urban centres. The intensity structure and direction of internal (within Romania territory) migration flows can serve as background for outlining the regional demographic typology. With this end in view, the interregional migration table has been elaborated for 1991 and 1995-2000, the rows representing the origin counties and the columns – the destination counties.

The last row contains the net inward movements by county and the last column – the net outward movements, also by county. The examination of these tables shows that that the number of counties of negative net migration was decreasing whereas the number of those of positive net migration was significantly increasing. In the period 1995-1998, 19 counties recorded a positive net migration. In 2000 positive net migration is noticed in 22 counties.

This is the year when Bucharest municipality has a negative net migration for the first time in the whole period analysed, excepting for the 20-29 aged population, who is enrolled in various education programmes, with big chances to find jobs thereafter.

The analysis undertaken for 1995 and 2000 highlights both counties of a high intensity of migration flows (inward and outward movements), such as Bucharest municipality and Constanta, Iasi, Timis county (in 1995 and 2000) and counties of a low level of migration flows (inward and outward movement) like Giurgiu, Satu-Mare, Tulcea, Caras-Severin and Sibiu (this one for the outward movement) in 1995. For 2000 a series of counties display low migration flows: Caras-Severin, Salaj, Giurgiu, Covasna, Tulcea, Harghita (for inward and outward movement), Satu-Mare (outward movement) and Brasov (inward movement).

The main conclusion that can be drawn is that the developed areas, of good business and job opportunities, well-developed infrastructure and longstanding industrial traditions continue to record a high intensity of the migration flows (both inward and outward movements) with positive net migration. At the same time, the disadvantages areas, of a low economic development level and low employment are characterized by low inward and outward movement. The only exception is represented by Covasna and Harghita counties, where the cause of low migration flows is not the economic development level but the specific ethnic structure (a high share of Hungarian population).

In order to point out the most important migration flows at national level, their orientation and distance, four counties have been selected considering their *major relevance in terms of geographical position and migration intensity* analysing the movement between each of them and the other counties, grouped within the development regions.

These counties are: Iasi (representative for North and North-East zones), Constanta (for South-East), Timis (for West and South-West) and Bucharest for South. They count for 25.3% of total number of migrants in 1995 and 23% in 1999. Even though the total number of migrants recorded a slow decrease between 1995 and 1999 (4.8%), the ranking of counties and regions in terms of migration intensity remains the same.

The analysis of the migration and distance in the selected counties reveals *the diminishing intensity of the long distance migration flows*. Also, the relatively small levels of the net migration (in absolute terms) at region level shows that *the changes in residence*

usually occur between counties belonging to the same region or even between localities of the same county.

Thus, for Iasi county the highest number of inward migrants (46.71%), respectively the highest number of outward migrants (34.30% come from the North-East region, where Iasi county is located (Table 6)

Table 6

The net migration for Iasi county considering the origin regions

Year 1995			
Immigrants	**Emigrants**	**Net migration**	**Origin region**
2260	1676	584	NE
695	884	-189	SE
248	412	-164	S
135	173	-38	SW
559	869	-310	W
146	123	23	NW
405	375	30	C
390	373	17	Bucharest
4838	**4885**	**-47**	**Total**
Year 1999			
Immigrants	**Emigrants**	**Net migration**	**Origin region**
2225	1614	611	NE
566	970	-404	SE
220	369	-149	S
97	144	-47	SW
645	481	164	W
90	84	6	NW
305	333	-28	C
365	286	79	Bucharest
4513	**4281**	**232**	**Total**

Source: Calculated with data from *Interregional residence changes table*, 1995 - 2000, National Board of Statistics.

For Constanta county (Table 7) the West intense migration flows (inward and outward movement) are from and towards North-East region (36.76% of inward migrants and 33.7% of outward migrants) and from the origin region, South-East (24.01%, respectively 22.27%).

Table 7

The net migration for Constanta county considering the origin regions

Year 1995			
Immigrants	Emigrants	Net migration	Origin region
2058	1489	569	NE
1344	1003	341	SE
887	814	73	S
354	281	73	SW
138	152	-14	W
153	140	13	NW
206	181	25	C
457	442	15	Bucharest
5597	**4502**	**1095**	**Total**
Year 1999			
Immigrants	Emigrants	Net migration	Origin region
1767	1266	501	NE
1333	895	438	SE
771	859	-88	S
276	292	-16	SW
143	164	-21	W
100	103	-3	NW
217	177	40	C
403	509	-106	Bucharest
5010	**4265**	**745**	**Total**

Source: Calculated with data from *Interregional residence changes table*, 1995 - 2000, National Board of Statistics.

In Timis county 49.02% of inward migrants came from the West and North-West regions and 21.21% from North-East region (Table 8)

Table 8

The net migration for Timis county considering the origin regions

Year 1995			
Immigrants	**Emigrants**	**Net migration**	**Origin region**
1369	678	691	NE
218	100	118	SE
159	103	56	S
810	468	342	SW
1485	858	627	W
1678	535	1143	NW
573	260	313	C
160	93	67	Bucharest
6452	**3095**	**3357**	**Total**
Year 1999			
Immigrants	**Emigrants**	**Net migration**	**Origin region**
629	479	150	NE
108	87	21	SE
63	91	-28	S
390	443	-53	SW
1260	868	392	W
1122	505	617	NW
351	196	155	C
4	79	-75	Bucharest
3927	**2748**	**1179**	**Total**

Source: Calculated with data from *Interregional residence changes table*, 1995 - 2000, National Board of Statistics.

Bucharest municipality continues to represent, for both 1995 and 1999, a major inward migration centre from both Southern counties and those located in South-East and South-

West, owing to the attraction exerted in terms of job opportunities, unemployment rate (much lower than in the origin zone), cultural and scientific life, etc. At the same time, an important number of persons leave Bucharest for other localities in the South region (40.02%), North-East region (19.87%) and South-East region (16.27%). Usually they are marginalised persons with difficulties in finding a job, a house, etc.

<div align="right">Table 9</div>

The net migration for Bucharest considering the origin regions

Year 1995			
Immigrants	**Emigrants**	**Net migration**	**Origin region**
2147	2122	25	NE
2221	1738	483	SE
6476	4274	2202	S
1333	940	393	SV
322	461	-139	V
321	452	-131	NV
408	691	-283	C
13228	**10678**	**2550**	**Total**
Year 1999			
Immigrants	**Emigrants**	**Net migration**	**Origin region**
1771	1648	123	NE
2209	1629	580	SE
5124	5002	122	S
1310	1116	194	SV
290	249	41	V
284	405	-121	NV
463	589	-126	C
11451	**10638**	**813**	**Total**

Source: Calculated with data from *Interregional residence changes table*, 1995 - 2000, National Board of Statistics.

The facts emphasized by the interregional migration table and the net migration table for the selected counties can be summarized as follows:

1. The gross internal migration is growing, at the same time with the decrease in the long-distance flows in favour of short-distance ones, leading to the increase in intra-county migration compared to inter-county migration.

2. Urban-rural and rural-rural flows are getting more and more important. The most active in this respect is 25-34 aged population (58.8% (urban-rural) and 63.4% (rural-rural) in 1999).

   By gender, most of women who changed their residence to rural areas belong to 15-24 year group (marriage being the main reason) whereas the most mobile group of men was 40-45 aged.

   The urban-rural return migration was quite intense in the less developed counties situated close to three big urban centres: Bucharest, Cluj and Iasi. In long run this tendency might have a positive effect upon the rural population in demographic and social-economic terms (the migrants are young, mainly of secondary education level); through, in case they do not adapt to the new environment, will become discouraged workers, confronted with exclusion situations on the urban labour markets.

3. Migration intensity and direction have been influenced by motivational factors as well: migration determined by job problems decreased from 34.5% in 1991 to 13.2% in 1995, 9.4% in 1999 and 8.7% in 2000, in favour migration influenced by family reasons (60.5% in 1999 and 59.9% in 2000) and other causes (marriage, pensioning off etc.).Job problems rank first among migration causes for 25-34 aged persons (48% in 2000) whereas family problems prevail for 15-19 aged persons (64.5% in 2000) and pensioning off for 60 years and over (30.1% in 1999 and 31.4% in 2000), closing the migration cycle.

The diversity of migration factors as well as the changing situations influencing this phenomenon makes it difficult to find a *long-term* tendency of migration flows.

Gravity models for estimating the migration flows. Gravity models, based on the analysis with Newtonian physics has proved successful in forecasting many types of movement

behaviour. In time were many attempts to reconciliate gravity models with economic theory[1]. Though, more recently it has been argued that economic theory is best for understanding the decisions of individual migrants whereas the gravity model has a useful role in the statistical modelling of broad aggregate flows of migrants (Armstrong and Taylor, 1993).

From this perspective and considering the available statistical data in Romania, an aggregate gravity model has been proposed in order to analyse and forecast the migration flows:

$$T_{ij} = \frac{P_i P_j}{d_{ij}^{\ b_{ij}}}$$

where: T_{ij} = gross migration between i and j

P_i = population in zone i

P_j = population in zone j

d_{ij} = distance between i and j

b_{ij} = coefficient reflecting the influence of distance upon migration

The *same four representative counties* (Iasi, Constanta, Timis, Bucharest) *have been selected as origin zones*, for estimating the gross migration between each of them and the eight development regions as destinations zones.

The series of data available for 1990-1999 have been used for the econometrical application so as to determine the values of b_{ij} coefficients (Table 10)

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[1] For example, $M_{ij} = f(P_i, P_j, D_{ij}, U_j - U_i, W_j - W_i)$, where: P_i =population in region I, P_j = population in zone j, D_{ij} = distance between i and j, U_i = unemployment rate in i, U_j =unemployment rate in j, W_i =wage rate in region i, W_j =wage rate in region j (Sheppard, 1978, Anderson, 1979 in Armstrong and Taylor, 1993)

Table 10

The values of the b_{ij} coefficients in the gravity model

	NE	**SE**	**S**	**SV**	**V**	**NV**	**Centre**	**Bucharest – Ilfov**
Bucharest	1,303	1,357	1,629	1,447	1,079	1,475	1,809	-
Iaşi	-	1,330	1,449	1,425	1,096	1,568	1,421	1,323
Constanţa	1,108	-	1,335	1,327	1,283	1,426	1,430	1,348
Timiş	1,162	1,392	1,683	1,311	-	1,212	1,325	1,566

Te b_{ij} coefficients can be subsequently used for gross migration forecasting. If the predictable changes in economic, social, legislative etc. framework are taken into account, the tendency identified in the previous period can be modified using a corrective factor (A), with values above or below 1 depending upon amplifying or diminishing migration intensity:

$$T_{ij}^* = A \frac{P_i P_j}{d_{ij}^{b_{ij}}}$$

where T_{ij}^* is the gross migration estimated by means of heuristic extrapolation.

Table 11 shows first the results for 1999 (the theoretical values have been compared with the empirical ones in order to validate the model); then the gross migration for 2002 and 2006 has been estimated.

Table 11

Gross migration calculated by means of gravity model

1999

	N-E	S-E	S	S-V	V	N-V	C	B+I
Bucureşti	3424	3824	10076	2415	5344	687	583	-
Iaşi	-	1551	598	244	1140	176	647	663
Constanţa	3007	-	1630	567	308	204	393	918

Timiş	1128	197	57	845	-	1729	555	84

2002

	N-E	S-E	S	S-V	V	N-V	C	B+I
Bucureşti	3404	3763	9861	2368	5224	673	574	-
Iaşi	-	2104	509	353	1343	126	698	773
Constanţa	3025	-	1614	563	305	202	392	908
Timiş	1130	196	56	834	-	1706	550	83

2006

	N-E	S-E	S	S-V	V	N-V	C	B+I
Bucureşti	3374	3679	9560	2299	5047	654	559	-
Iaşi	-	2104	514	353	1347	126	701	777
Constanţa	3045	-	1589	555	299	199	387	892
Timiş	1131	193	55	818	-	1673	541	81

4.   Main tendencies and policy measures

Estimations regarding the human potential and migration flows distribution for 2002-2006. Economic and social implications at regional level. The human potential and migration forecasting until 2006 has been correlated with the general economic evolution, regional disparities in terms of human resources and their use and specific economic, demographic, social and cultural factors of a significant influence on the intensity and orientation of population and labour force migration flows.

The first step consisted in the selection of regression functions for population forecasting at county level.The econometric tests revealed that the linear function offers the best estimation of the population variation in the interval analysed.

At national level, as well as in most counties *a constant tendency of decreasing in total population has been recorded*, of a variable intensity between regions. Exceptions are Bacau, Galati, Iasi, Neamt, Suceava and Vaslui counties, where population is growing.

For the whole county the population forecast indicate 22,117,099 people in 2006. the chronological series employed for tendency estimation had only nine years, that does not allow a longer forecasting horizon. At the same time it should be considered that the 1990s

recorded numerous particular events (with demographic influences as well) whose impact might diminish in the future whereas the beginning of a sustainable growth period could stop the demographic decline. Thus, a long-term population forecasting would not be realistic at this moment.

For the migration flows forecasting an analytical technique based on the average in- and out-migration coefficients has been used besides gravity models, the results being compatible.

The forecasting indicates *the continuations of the tendency of diminishing the intensity of long-distance migration flows*. In turn, short-distance, within the same county, migration will grow. This situation is determined by restructuring process and decline in the importance of some industrial centres that used to attract migrants especially from the high demographic potential zones.

The decrease in the long distance migration in favour of short distance ones contributes to the emergence of several zones where important population stabilisation forces will act. The low net migration at region level also confirms that residence changes will usually occur between the counties of the same region or within counties.

Thus, for Iasi county almost half of the in-migrants come from the North-East region, to whom this county belong and more than one third of out-migrants have the same region as destination. Even through the intensity of migration flows for this county is important, the net migration will low and have a decreasing tendency.

Constanta county will record the most intense migration flows for both in- and out-migrants with the North-East region, followed by the origin region (South-East). The most important positive net migration has its origin in North-East and South-East whereas a higher negative net migration is noticed for Bucharest – related flows. In general, the net migration will slowly decline.

Timis county will have the most important flows in relation with West, North-West and North-East regions, in all cases the net migration will be positive. The negative migration flows will be very low. In general, the net migration will be quite high, but of a diminishing tendency.

Bucharest municipality will have the most intense migration flows in relation with South region (approx. half of total number of out- and in-migrants), followed by South-East and South-West. The negative migration flows are very low, Bucharest being the only zone

of an increasing net migration. Bucharest will continue to represent a major in-migration centre because of the attraction determined by diversified job opportunities and its various social-political, cultural and scientific institutions.

In general terms, the migration phenomenon must be analysed in the regional disparities context. The acute economic crises generated by transition have been added to the chronicle, already existing imbalances. The individual and social decline occurred at the whole territory level, but the speed was different between various zones. Labour force migration can contribute to increasing or alleviating regional disparities. The traditional migration model, arguing the orientation of labour force towards well developed regions, of high wages and good job and business opportunities contributes to increasing regional disparities.

On the contrary, the tendency of diminishing the intensity and distance of migration flows could reduce regional imbalances provided active policy measures be supported in the areas mostly affected by the economic crisis.

Programmes regarding population and labour force mobility in Romania. Reducing long distance migration, as well as diminishing the 'push' forces for the potential migrants, mainly in the low development potential areas may be achieved by improving the economic and social environment of those regions, by creating new labour opportunities. With this end in view various programmes have been established by Romanian Government in cooperation with the European Union for regional development, employment increase, infrastructure improving and better living conditions.

The main Romanian economic programmes run in the actual period are: Economic Pre-accession Programme, National Development Plan for 2002-2005, National Employment Action Plan, special programmes for economic development in the disadvanteged areas, programmes for supporting SMEs, the Programme of the Romanian Social Development Fund, the SAPARD programme for agriculture, the ISPA programme for improving transportation and environmental protection infrastructure and so on.

For the economic reform continuation, the Economic Pre-accession Programme and the National Development Plan for 2002-2005 include active measures for disadvantaged persons already unemployed or underemployed, training programmes, etc. in order to ensure

higher job security, at the same time with flexible social protection programmes for unemployment and so on.

The First National Employment Action Plan combines national priorities with the European employment strategy. Some of the main goals refer to maintaining unemployment rate under 9%, increasing the active employment measures ratio from 12% to 23%, making an efficient use of the unemployment insurance budget, consolidation of the National Employment Agency.

The special programmes for economic activity in underdeveloped rural zones include various priorities of underdeveloped zones in the investment resources distribution, the stimulation of SMEs creation and development in lagging regions in order to ensure better employment and innovation opportunities, entrepreneurship and productivity increase, the support for agriculture and rural zones development through alternative income generating activities, rural infrastructure improvement, better labour force qualification, investments for infrastructure improving, modernization and development, integration in the European transportation corridors.

The areas of high economic potential will not be neglected either. They benefit from programmes regarding the turning of their resources to a better account, the modernisation of the employment structure and rising the educational and cultural level, all of these contributing in the end to achieving the goal of a functional market economy.

5. Conclusions

• The economic disparities already existing between the prosperous and the lagging regions have increased in Romania during the transition years.

• The future evolution of the labour force mobility in Romania will be determined by economic, social, educational, demographic factors and it will be also influenced by the process of accession to the EU.

• Romania may answer to the challenges of the accession process by choosing an economic development type that combines the quantitative and qualitative labour opportunities with human development programmmes and solving the poverty problems.

• The results of the analysis undertaken show that the economic disparities seem to be the key issue in the question of population and labour mobility, as asserted by the neoclassical theory. Though, its mechanism is not confirmed by a series of concrete situations, such as the intense urban-rural flows, showing that, besides the economic factors, the institutional ones as well as the individual and family motivations are also very important for the persons that decide to migrate. These facts provide enough convincing evidence of the need of relaxing the assumptions of the classical migration model, labour migration being a more complex phenomenon than capital mobility between regions.

• In the next years is expected a decrease in the interregional migration in favour of the intra-regional one. The migration flows from urban to rural areas at the same time with those from rural to rural areas will continue to play a significant role.

• Between 1990 and 2000 total employment diminished by 2.2 million people (from 10.8 to 8.6 million people) whereas the employment rate dropped by 16%. As regards unemployment – very low and hidden before 1990 – it recorded significant levels starting with 1990.

• Territorial imbalances might deeper in the future due to the market-based mechanisms. Other countries experience proves the investment attractivity of the developed regions, of long industrial traditions and good infrastructures rather than the disadvantaged zones, with reducing development perspectives.

• It is well known that employment question is related to a mix of demographic, economic, educational and social-political factors: though, the economic one is decisive. The main cause of the chronically unemployment in the '90s is the delay in macroeconomic restructuring and sustained economic recovery. Deindustrialization and reagrarization had a negative impact on employment opportunities in all regions; on the other hand, the service sector still remains underdeveloped, unable to create an important number of jobs.

• Some favourable evolutions can be noticed: the employment increase in the private sector, professional structure diversification. Also, within the European labour market Romania holds some comparative advantages, in terms of quality-cost relationship. The young labour force potential is bigger in Romania than in EU countries, of a training level compatible with the Western standards.

• The forecasting indicates *the continuations of the tendency of diminishing the intensity of long-distance migration flows*. In turn, short-distance, within the same county, migration will grow. This situation is determined by restructuring process and decline in the importance of

some industrial centres that used to attract migrants especially from the high demographic potential zones.

• The decrease in the long distance migration in favour of short distance ones contributes to the emergence of several zones where important population stabilisation forces will act. The low net migration at region level also confirms that residence changes will usually occur between the counties of the same region or within counties.

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