

## **TERRITORIAL DISPARITIES IN THE POPULATION DYNAMICS. COMPARATIVE ANALYSIS BETWEEN BUCHAREST-PLOIEȘTI CORRIDOR AND BUCHAREST-PITEȘTI CORRIDOR**

FLORENTINA ION<sup>1</sup>, PETRONELA NOVĂCESCU<sup>2</sup>

**ABSTRACT** - The present paper is a comparative analysis of territorial disparities in the population dynamics of the settlements along two corridors of major national importance. The objective is to prove that a key corridor starting in the capital city of a country has both positive and negative effects on the network of settlements it goes through. The capital influence is widely felt in both areas studied, nevertheless there are differences which were analysed starting from the premise that the borders of Bucharest metropolitan area are currently up to 50 km around the capital and that the area of influence is continuously expanding territorially. These differences are generated by the fact that although Bucharest is a major pole of social-economic phenomena, its influence on the settlements in the neighbouring area varies in intensity because urbanisation, development and modernisation are intense, but within a limited area. The existence of the two corridors had an impact upon the configuration of localities causing the extension of the built-up areas in the localities close to the roadway, especially parallel to it. This is particularly related, but it is not limited to the increase in the supply of/demand for land plots earmarked for building dwellings of a higher standard – main or secondary residences. The evolution of the population dynamics of the settlements alongside the two corridors is closely related to the social-economic changes occurred in the area influenced by the three cities (Bucharest, Ploiești and Pitești) and to the intensification of urbanisation.

**Keywords:** net migration rate, natural growth, total balance, corridor, rural settlements

### **INTRODUCTION**

We have chosen to analyse comparatively the territorial disparities in the population dynamics of the settlements crossed by the two corridors given our interest in the transportation infrastructure impact on human settlements, in terms of both socio-economic status and territorial development. We consider that this case study can prove that a corridor of national significance could have a positive influence on the development of the localities crossed by the corridors, especially the localities closer to important junctions, in this case the capital of the country and the two cities, Ploiești and Pitești.

The different evolution of the population dynamics on the two corridors are first of all explainable by the fact that A1 Highway crosses the area outside the locality borders of the 12 settlements analysed and National Road 1 (DN1) crosses an area within the locality borders, the latter having a greater impact on the population of the seven settlements crossed. Compared with A1, DN1 plays a highly significant role in the life of the inhabitants living in the settlements it passes through. The daily exchange of merchandise and raw materials between Bucharest and Ploiești or between these cities and the human settlements located between them is carried out on DN1, commuters easily get to their working places using DN1, the economic relations between the localities in the North of Ilfov county and those in the South of Prahova county were also facilitated by DN1. This corridor is

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<sup>1</sup> Ph.D. student, University of Bucharest, Faculty of Geography, Doctoral School “Simion Mehedinți- Nature and Sustainable Development”, 1 Nicolae Bălcescu Blvd., Bucharest, Romania.

E-mail: florentina\_ionz@yahoo.com

<sup>2</sup> Ph.D. student, University of Bucharest, Faculty of Geography, Doctoral School “Simion Mehedinți- Nature and Sustainable Development”, 1 Nicolae Bălcescu Blvd., Bucharest, Romania.

E-mail: petronela.novacescu@yahoo.com

one of the main agents contributing to the significant increase in the urbanisation of the North of Ilfov county.

A1 Highway, in the region under analysis, attracts economic operators interested in large storage premises which are cheaper than those bordering cities, but it cannot prevent the depopulation of rural settlements located far from Bucharest or Pitești because it hardly gives any advantages to the inhabitants of the communes crossed, except for a small number of jobs in the business units established along the highway. But DN1 gives more advantages to the population of the localities crossed, contributing to the cessation of population and the development of the bordering localities.

## DATABASE AND METHODOLOGY

The study is based on the analysis and interpretation of the statistical data and other information obtained from Ilfov County General Statistics Department, National Institute of Statistics Bucharest, Municipality of Snagov commune in Ghermănești (Snagov commune General Development Plan, 2004), from the locality sheets for 1991- 2008, from the *2002 Census of population and dwellings*, from the *Ilfov County Land Use Plan* carried out by the National Institute for Research-Development in Land Development and Planning, URABAN PROIECT- Bucharest in 2004, from *Bucharest- Ilfov Regional Development Plan for 2007- 2013* prepared in 2006 by Bucharest- Ilfov Agency for Regional Development, Bucharest City Hall, Bucharest General Council, Bucharest Local District Councils, Bucharest Metropolitan Area Planning Centre, Ilfov County Council and Bucharest-Ilfov Local Administrations, from the *Ilfov County Economic and Social Development Strategy for 2007- 2013*, a study prepared by Ilfov County Council in 2007, and from *Statistical Yearbooks for Argeș* (1992 and 2002), *Dâmbovița* (1992) and *Giurgiu* (1992) counties.

With a view to obtaining the information necessary for this analysis, not only have we thoroughly studied the below-mentioned bibliography, but we have also carried out fieldwork and taken photographs in the analysed area.

The cartographic material was processed by authors in Corel Draw using a cartographic basis obtained from Ilfov County Office for Cadastre, Geodesy and Cartography in Bucharest and from the Library of the Faculty of Geography (University of Bucharest).

## GEO-DEMOGRAPHIC CHARACTERISTICS

### 1. Evolution of total population along the two analysed corridors



**Figure 1.** National road 1 (DN1)  
(Bucharest-Ploiești)

Between 1991 and 2008 the population of the 12 communes on Bucharest-Pitești corridor and of the 7 communes on Bucharest-Ploiești corridor increased from 86,666 to 88,403 inhabitants and from 47,633 to 50,936 inhabitants, respectively, the population increasing by 2% in 2008 compared to 1991 in the case of the first corridor, and by 7% in 2008 compared to 1991 in the case of the second corridor. In both cases, the total number of inhabitants varied, increasing by approximately 5,000 inhabitants above the minimum value. Although a slight increase was noted in both cases, the maximum value for DN1 was reached in 2008, with an obvious growth in the population number between 1999 and 2008. In the case of A1, the maximum value was reached in 1995, followed by a slight decrease in the population until 2005, when an almost insignificant growing trend began. A possible explanation is that the rural population in the communes along Bucharest-Ploiești corridor was not interested in the capital as much as during

the communist period, but starting with 2000, the phenomenon of urban population return to the rural areas of origin gained a new momentum.

TERRITORIAL DISPARITIES IN THE POPULATION DYNAMICS. COMPARATIVE ANALYSIS BETWEEN BUCHAREST-PLOIEȘTI CORRIDOR AND BUCHAREST-PITEȘTI CORRIDOR

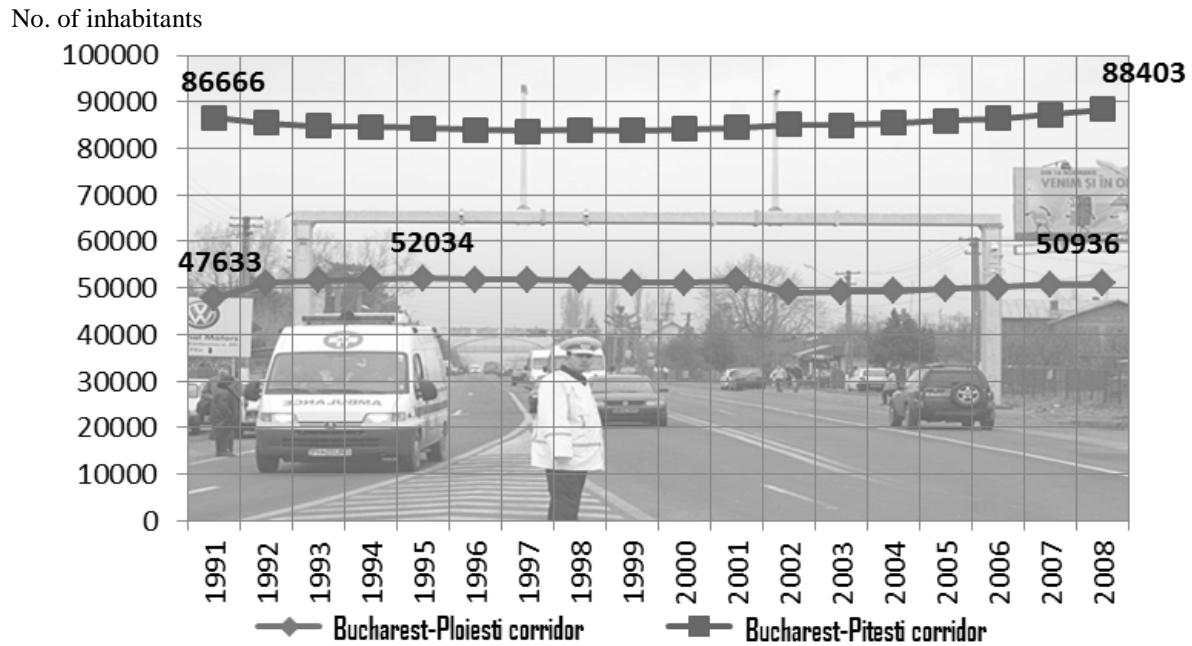


Figure 2. Evolution of the population of the settlements along Bucharest-Pitești and Bucharest-Ploiești corridors between 1991 and 2008 (background photo: National Road 1 in Bărcănești)

In the case of Bucharest-Pitești corridor, during the peak period, Bolintin-Vale, established as a town in May 1989, was a centre of attraction for the population maintaining at a high level the total number of the population along the entire corridor analysed. The population grew at a faster rate on Bucharest-Ploiești corridor, namely 9.91 %, and on Bucharest-Pitești at a rate of 5.8%.

2. Population dynamics and mobility

2.1. Evolution of natural growth between 1991 and 2008

The natural growth is characterised by negative values throughout the analysed period, on both corridors. Between 1991 and 1996, the rate of natural growth continuously decreased from -2.26 to -5‰ for Bucharest-Ploiești and from -1.24‰ to -4.81‰ for Bucharest-Pitești corridor, except for 1993 and 1994 when a slight increase was recorded on Bucharest-Pitești corridor. After this period, the two corridors no longer had a similar evolution. From 1996, Bucharest-Pitești corridor continuously increased, and the maximum level of -2.17‰ was reached in 2000, in 2008 the level being -3.23‰.

As Bucharest-Ploiești corridor is concerned, the natural increase followed a decreasing trend, reaching -5.67‰ in 2008. The exception is the period 1999-2001, when the rate of

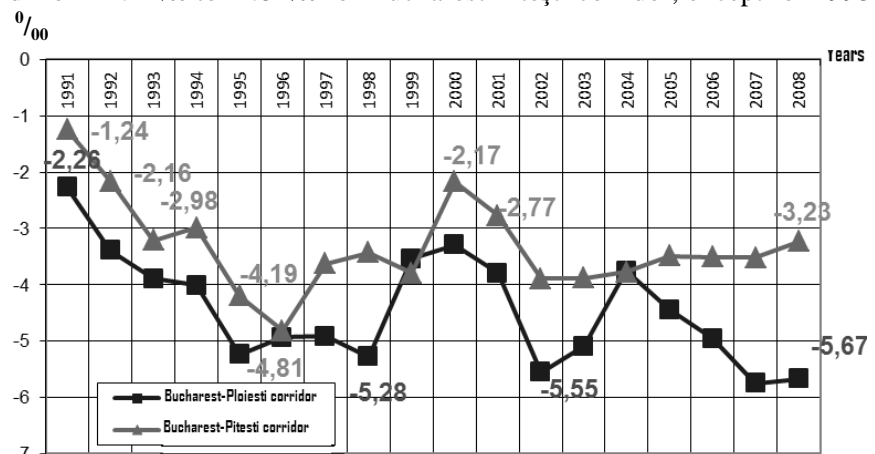


Figure 3. Evolution of natural growth on Bucharest-Ploiești and Bucharest-Pitești corridors between 1991 and 2008

natural growth rises, a similar case with the other corridor, and the year 2004 when the rate of natural growth raised from  $-5.09\%$  to  $-3.77\%$ .

Along Bucharest-Ploiești corridor, the natural growth hit all-time low in communes Ciolpani, Snagov and Gorgota (the absolute minimum value of  $-12.85\%$  was reached in Ciolpani commune in 1995). These three communes also had a negative rate of natural balance during the entire period concerned. On Bucharest-Ploiești corridor, Balotești locality is to be noted, having the highest average natural balance in the 7 communes ( $-0.05\%$ ), the natural balance being positive most of the period concerned.



**Figure 4.** National Road 1 (DN1) in Gorgota

On Bucharest-Pitești corridor, the natural growth in the 12 communes was negative, except for Bolintin-Vale town which had a positive rate of natural growth throughout the period concerned, an all-time high of  $5.43\%$  being hit in 2001.

After fluctuations, like the decrease to the minimum value of  $0.43\%$  in 1995 or like the decrease to  $5.43\%$  in 2001, the rate of natural growth reached the value of  $3.22\%$  in 2008, which is  $1.78\%$  lower than in 1991.

The absolute minimum value of the natural growth was reached in 1998 in Vânătorii Mici ( $-14.93\%$ ). Similar values were also characteristic of Ratești ( $-11.22\%$  in 1998 and  $-12.22\%$  in 2002).

Throughout the period concerned, the natural growth in Ciorogârla, Bolintin-Deal and Petrești evolved similarly, except for the period 2005-2008 when it dropped to  $-6.19\%$  in Petrești, compared with the other two communes where values slightly raised ( $1.43\%$  in Ciorogârla and  $10.32\%$  in Bolintin-Deal). The number of inhabitants of these three localities was also alike (4,500-6,500 inhabitants).



**Figure 5.** National Road 1 (DN1) in Otopeni

The towns of Bolintin-Deal and Ștefănești have a similar number of population (between 11,000 and 13,500 inhabitants), and consequently the natural growth evolved likewise throughout the period concerned. Even if the natural balance for Bolintin-Vale was constantly positive, and the one for Ștefănești was negative, the rate of growth or decline in the natural growth was similar in both towns: the rate of decline between 1991 and 1992 was 3.06 for Bolintin-Vale and 4.28 for Ștefănești, and the rate of growth between 2000 and 2008 was 2.46 for Bolintin-Vale and 2.9 for Ștefănești.

## 2.2. Net migration rate between 1991 and 2008

In all 12 localities crossed by A1 highway, the net migration rate reached the absolute minimum value in 1991, the lowest value being recorded in Chiajna ( $-15.89\%$ ), the same locality where the absolute maximum value for 2008 ( $32.84\%$ ) was recorded. This situation may be explained by the economic development of the commune after 2000, when the technical-urban public

TERRITORIAL DISPARITIES IN THE POPULATION DYNAMICS. COMPARATIVE ANALYSIS  
BETWEEN BUCHAREST-PLOIEȘTI CORRIDOR AND BUCHAREST-PIȚEȘTI CORRIDOR

infrastructure in all localities bordering the capital was improved and the level of comfort generally raised. Once the infrastructure was modernised, this commune, undergoing a fast urbanisation process, developed also due to the fact that many enterprises as well as large business units (Carrefour, Bricostore) carry out activity here, with both qualified and unqualified workforce.

After 1992, the net migration rate fluctuated, but the increasing trend was maintained. Thus, in 2008, all localities had positive values except for Câteasca commune (the absolute minimum value for 2008 being -2.01‰). This low value is a result of the geographical position of this locality 20 km from Pitești, the low number of inhabitants (3,680 inhabitants in 2007) and the population aging trend, specific of rural settlements located relatively far from the county polarising centres.

The analysis of the evolution of the migration balance on the two corridors indicates that in the case of Bucharest-Ploiești corridor, the number of emigrants was higher than the number of immigrants. Except for 1995 and 1999, when the values decreased below 0 (-0.25‰ in 1999), the net migration rate was at high values throughout the period concerned. The maximum value was reached in 1992, namely 15.52‰.

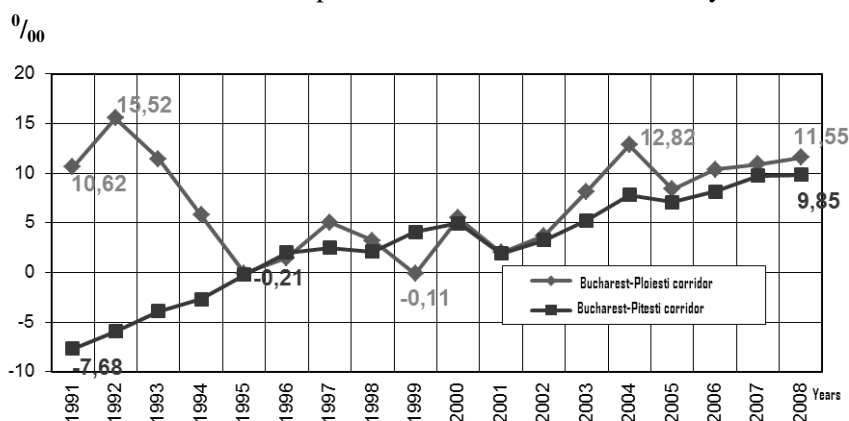
Fluctuations of the net migration rate may be noted not only in relation to the above-mentioned corridor, but to Bucharest-Pitești corridor as well. The difference would be that the latter followed an increasing trend in the net migration rate, with a few exceptions. Until 1996, the values were negative, the lowest migration rate of -7.68‰ being registered in 1991. In 2008, the migration rate reached an all-time high of 9.85‰.

As regards Bucharest-Ploiești corridor, Otopeni, Puchenii Mari and Bărcănești, localities with a similar number of inhabitants (7,000-11,000 inhabitants), had a close evolution of the net migration rate except for the period 1991-1995, when the natural growth in Otopeni suddenly dropped from 82.68‰ to a value close to 0, and for the year 2000, when it raised to 17.74‰. Afterwards, it abruptly declined, following the same slightly decreasing curve up to 2008 when the value of 20.9‰ was reached.

The only locality on Bucharest-Ploiești corridor with a positive net migration rate throughout the period concerned was Snagov, which reached the maximum level in 1993 (33.7‰) and the minimum level in 1991 (0‰) and where the urbanisation process started the latest and many real estate investments were drawn.

Balotești commune had an evolution similar to Snagov. The only year when Balotești had a negative net migration rate was 2001 (-0.3‰) and the maximum value was reached in 1992 (43.07‰). In this case as well, the population of the two compared localities is close (5,000-7,000 inhabitants).

The maximum value in 1992 may be explained by Law no. 18/1991 (Land Fund Law) which provided for land restitution and consequently many of the inhabitants living in the capital city, who had left their places of origin during the communist years, returned.



**Figure 6.** Evolution of net migration rate on Bucharest-Ploiești and Bucharest-Pitești corridors between 1991 and 2008

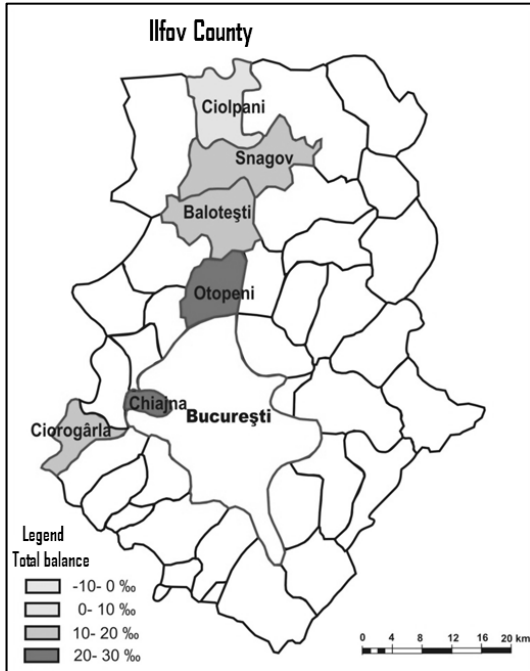
### 2.3. Evolution of total balance

Until 1999, the two corridors had a totally different evolution of the balance: Bucharest-Pitești corridor followed an increasing curve, and Bucharest-Ploiești corridor a decreasing curve. As the latter is concerned, values were positive until 1994, but the former recorded positive values only in 1999.

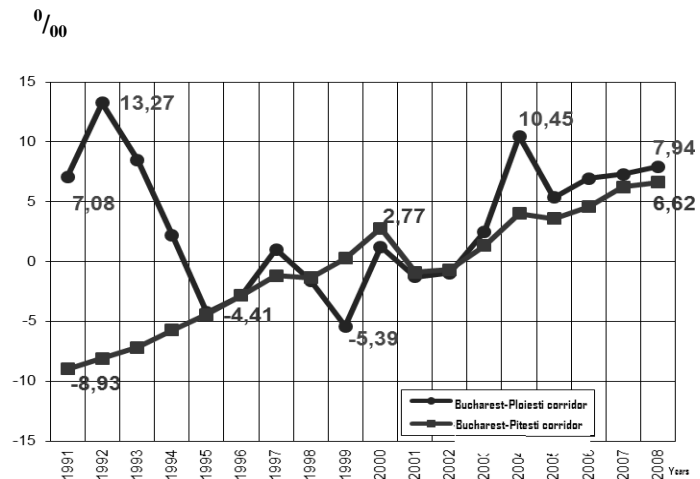
From 1999, both corridors had a similar evolution, in 2008 reaching, after several fluctuations, 7.94‰ (Bucharest-Ploiești corridor) and 6.62‰ (Bucharest-Pitești corridor).

Analysing the total balance and net migration rate charts for the localities on Bucharest-Ploiești corridor, a similar evolution can be noted due to the very low values of the natural growth. An example is the case of Otopeni having a total balance which, like the net migration rate, suddenly dropped in 1991-1995.

Balotești and Snagov communes are another example, their total balance being similar to the net migration rate for the same period (Figure 7).



**Figure 7.** Total balance of the localities in Ilfov county crossed by DN1 and A1, in 2008



**Figure 8.** Evolution of the total balance on Bucharest-Ploiești and Bucharest-Pitești corridors between 1991 and 2008

In 2008, the lowest values were recorded in Gorgota (-5.55‰) and Puchenii Mari (-1.14‰) because the two communes are not within the perimeter influenced by the capital, like the other localities, and this had adverse effects on the socio-economic level.

As regards Bucharest-Pitești corridor, very low values of -20‰ were recorded between 1991 and 1992 in Câteasca, Vânătorii Mici and Chiajna. The year 2008 is of note for the high values of the total balance in the case of Chiajna (28.55 ‰) and Ștefănești (24.80‰).

### THE CORRIDOR – FACTOR IMPACTING ON THE SOCIO-ECONOMIC STRUCTURE

From 1989, the localities crossed by the two corridors underwent some “mutations” in demographic, economic structure and implicitly in the use of land.

All socio-economic changes were determined and influenced by the intensification of the urbanisation of rural settlements and the continuous development of the county towns: Otopeni (Ilfov county), Bolintin-Vale (Giurgiu county) and Ștefănești (Argeș county).

Especially since 1991, Otopeni has continuously developed due to its geographical position - close to the Romanian capital city, the economic profile established by the Bucharest Otopeni International Airport and to the advantages entailed by DN1. Given this significant development, it was declared town in 2000.

All settlements in Ilfov county derive advantages from their geographical position, being located within the capital’s sphere of influence. There are constant flows of workforce, resources and products between these settlements and the capital. This advantage stops the rural area depopulation and attracts urban population to the rural localities offering what they look for: a calm environment, far from the agglomeration and pollution of large cities, and a comfort level close to the urban one.

## TERRITORIAL DISPARITIES IN THE POPULATION DYNAMICS. COMPARATIVE ANALYSIS BETWEEN BUCHAREST-PLOIEȘTI CORRIDOR AND BUCHAREST-PITEȘTI CORRIDOR

In this study we have tried to prove that the national and county road networks have a significant importance in the development of rural localities. The fast movement of people and goods contributes to an easier inter-pervasiveness of urban and rural environments and the mutual influence is faster.

After 1990, the built-up area in the localities within the sphere of influence of the three cities extended to the detriment of agricultural land. This was due to a complex of factors: Law no.18/1991, urbanisation of the localities near the three cities and the “real estate boom” between 2000 and 2004, which generated the rise in the price of land in certain localities and the cultivators’ disinterest in land farming.

The impact of the two corridors on the use of land resulted in the increase of the areas for industrial and storage units, business, public utility and dwelling units. A1 highway and DN1 attracted many investors in all areas. Residential developments (Ștefănești, Balotești, Snagov, Otopeni) and business centres (Chiajna, Otopeni) for the population of the three cities were built, as well as new industrial units, attracted by the existence of storage areas and the possibility of future territorial expansion.

### CONCLUSIONS

At present, a difference could be noted between the levels of economic development of the two corridors due to the fact that DN1 passes through the inhabited area of settlements meanwhile A1 highway only crosses the area outside the locality borders, and the inhabitants along Bucharest-Ploiești corridor may benefit of all related advantages.

Between 1991 and 1996 the natural growth corresponding to both corridors was continuously declining as a consequence of the migration phenomenon of young or middle-aged population which were attracted by the “city mirage”.

Population aging and depopulation were characteristic of the analysed localities until 2000, but lately these phenomena have slightly decreased as a consequence of infrastructure development in most localities concerned.

After 1996, the population who had previously left returned to their places of origin due to the improvement of life standards and employment opportunities. Besides, the rate of natural growth also grew as a result of the settlement of a population coming from the three cities (Bucharest, Ploiești, Pitești), who changed their domicile or residence within the sphere of influence of the above-mentioned cities. Thus, the phenomenon of rural-urban migration characteristic of the period 1991-1996 reversed, and occurs at present since more families from the urban environment, especially retirees, choose to migrate to the rural environment due to the high utility costs of dwellings.

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