

The pattern of demographic changes in Craiova and its peripheries - causal or catalytic agent in the urban growth?

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Abstract

The paper analyses the demographic structure of Craiova and its neighbouring area, taking into consideration the suburbanization process and the strong demographic decline that followed after 1990. The demographic potential is the inner driving force of the urban and represents a decisive factor for the territorial changes that the contemporary post-communist town is facing in the context of an ever-increasing mobility and transformations of the core-periphery relationships.

Keywords: *Craiova, geodemographic resources, urban growth, demographic decline, suburbanization.*

Rezumat. Tiparul schimbărilor demografice în Craiova și periferiile sale – agent cauzal sau catalizator în creșterea urbană?

Articolul pune în evidență analiza demografică structurală a municipiului Craiova și a zonei sale adiacente, în contextul suburbanizării și al declinului demografic pronunțat de după 1990. Potențialul demografic exprimă forța motrice internă a urbanului și reprezintă un factor decisiv în cadrul transformărilor teritoriale pe care le traversează orașul post-comunist contemporan în contextul mobilității crescânde și a schimbării raporturilor centru-periferie.

Cuvinte-cheie: *Craiova, resurse geodemografice, creștere urbană, declin demografic, suburbanizare.*

Introduction

Well-known and influential studies on urban structure to explain urban growth were posited by the Chicago School scholars; the process of urban expansion was explained based on differentiation of land uses and competition among those uses in models of internal organization, in terms of the invasion and succession of one zone (predominant land use) into the next outer zone adjacent to it, with physical expansion of the city as a result (Johnson et al., 2009, Warf, 2006).

A clear picture of a settlement's demographic potential is very important since the analysis of its diachronic evolution, together with the changes of the economic dynamics are the main factors that trigger urban growth and transformations of the relationships that will exist between the town and its hinterland (Suditu et. al., 2010, p. 81).

Meanwhile, demographic changes are one of the major inner forces needed for restructuring and transformation of the urban system components and of the relationships between them, with a multiple impact upon the inner urban organization and the spatial development of the town towards the rural area. Thus, 'the population, which through its characteristics, creates a typical social environment, influences not only the economic activities by the quantity and quality of the work force, the human settlements following the population increase and the demands for a particular way of life, leading to their spreading and upgrading, but also the

behaviour of human communities as a result of the training and education level' (Ianoș, 2000, p. 23).

Geographical setting

Craiova holds a good position in the national urban system and has a leading role at a regional level, as its demographic potential, together with the status of town of first rank, increase pole and headquarters of the South-Western Development Region prove it, polarizing the entire region. Craiova is situated almost in the center of the region (Fig. 1), halfway between the Carpathians and the Danube, at the crossroads of the main communication lines; hence, good accessibility and connectivity.

Along time, Craiova has maintained its rank within the national urban hierarchy as well as its role of the most influent centre within Oltenia. From this point of view, along the 20th century and the beginning of the 21st century, at national level Craiova has always been among the top ten towns of the country (Table 1), not only because of its administrative functions (county seat, oblast or region), but also because, just like other medieval towns, Craiova remained the main urban centre of a Romanian province, which ensured it a privileged regional position (Popescu, 2009).

At regional level, Craiova had a very stable position, testifying for a significant hierarchic innercy as a result of the few small and medium-sized towns, less competitive centres in the monocentric urban system of Oltenia (Table 2). The rank of Craiova town has a linear trend, compared with the other county seats in Oltenia. Still, the primacy index

(Voiculescu, 2004, p. 147) for Craiova and the next town has always been higher than 2.3.

The urban growth and the dynamic formation of the town periphery have been fundamentally

influenced by the demographic vitality and predominantly rural regional context, Craiova's regional role and the development of road transports.

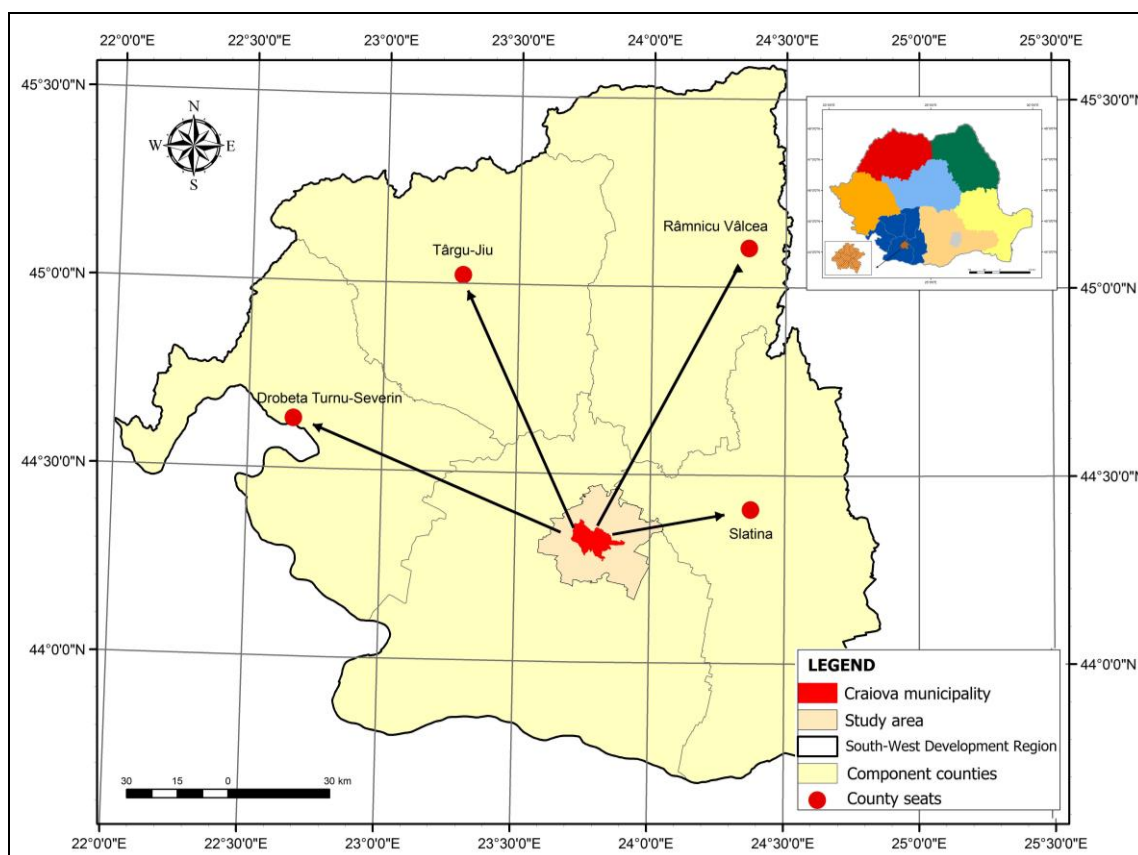


Fig. 1: Geographical setting

Table 1: Craiova in the national urban system

Rank	29.XII.1930	21.II.1956	15.III.1966	5.I.1977	7.I.1992	18.III.2002	20.X.2011
1	București 639,040	București 1,236 905	București 1,365 885	București 1,820 829	București 2,067 545	București 1,926 334	București 1,883 425
2	Chișinău 114,896	Cluj-Napoca 154,762	Cluj-Napoca 185,786	Timișoara 271,927	Constanța 350,581	Iași 320,888	Timișoara 319,279
3	Cernăuți 112,427	Timișoara 142,251	Timișoara 174,388	Iași 269,464	Iași 344,425	Cluj-Napoca 317,953	Iași 290,422
4	Iași 102,872	Stalin* 123,882	Brașov 163,348	Cluj-Napoca 266,473	Timișoara 334,115	Timișoara 317,660	Cluj-Napoca 324,576
5	Cluj-Napoca 100,844	Ploiești 114,560	Iași 160,889	Brașov 260,577	Cluj-Napoca 328,602	Constanța 310,471	Constanța 283,872
6	Galați 100,611	Iași 112,989	Galați 151,349	Constanța 260,331	Galați 326,141	Galați 302,810	Craiova 269,506
7	Timișoara 91,580	Arad 106,457	Constanța 150,436	Galați 244,021	Brașov 323,736	Craiova 302,601	
8	Ploiești 79,149	Brăila 102,491	Craiova 148,821	Craiova 226,212	Craiova 303,959		
9	Brăila 68,347	Constanța 99,690					
10	Craiova 63,215	Oradea 99,007					
11		Craiova 96,929					

(Data source: Romania statistical yearbooks, Population Census)

* nowadays Brașov

Table 2: Craiova's rank in the regional urban system

Year	Craiova			Râmnicu-Vâlcea		Drobeta Turnu-Severin		Târgu-Jiu		Slatina	
	R	S	Ip	R	S	R	S	R	S	R	S
1859	1	21,521	5.88	4	3,160	5	2,925	2	3,661	3	3,534
1899	1	45,579	2.31	4	7,288	2	19,753	5	6,718	3	8,150
1912	1	56,023	2.37	3	13,588	2	23,643	4	12,907	5	10,316
1930	1	63,215	2.99	3	15,648	2	21,107	4	13,030	5	11,243
1941	1	77,051	2.40	3	15,653	2	32,040	4	14,435	5	13,918
1948	1	84,574	2.70	4	17,238	2	31,296	3	17,698	5	13,136
1956	1	96,929	2.98	4	18,984	2	32,486	3	19,618	5	13,381
1966	1	148,821	3.28	4	23,880	2	45,394	3	30,837	5	19,267
1977	1	226,212	2.95	3	66,321	2	76,686	4	63,506	5	44,892
1992	1	303,959	2.64	3	113,624	2	115,259	4	98,238	5	85,168
2002	1	302,601	2.81	2	107,7263	3	104,557	4	96,562	5	79,171
2011	1	269,506	2.73	2	98,776	3	92,617	4	82,504	5	70,293

(Data source: Romania statistical yearbooks, Population Census)

R-rank, S-size, Ip-index of primacy

Thus, regarding the spatial concentric development, there exists a suburban ring that includes the present periphery of the town (the inner periphery): Făcăi, Mofleni, Popoveni, Șimnicul de Jos, Cernele, Cernele de Sus, Izvoru Rece, Rovine 2, and an outer ring that includes the neighbouring periurban area, the outer periphery or emerging periphery: Breasta, Bucovăț, Cârcea, Coșoveni, Ghercești, Ișalnița, Pielești, Podari, Șimnicul de Sus (Șoșea, 2013, p. 191). The study points to their potential to influence the town dynamics, by highlighting the pattern of the natural dynamics and population mobility, focusing on the data provided by the last population censuses.

Population dynamics

Craiova has witnessed a relatively constant increase of population, with some variations: as a result of the two world wars, the population number changed very little during the first half of the 20th century; there was a significant increase following the decree from 1966 (that was targeted towards raising the birth rate by banishing all contraceptive means) and the positive migratory increase triggered by the strong industrialization process the town faced during the communist period. This episode was followed by a significant decline of the population number that all the post-communist towns had to face during the transition period.

The general ascending trend is the result of the consolidated function as major regional pole of the town, its administrative, economic and cultural functions. Thus, Craiova concentrated more and more population within the county, the share of the population from Dolj County that lived in Craiova increasing from 21.5% in 1966 to 2011.

During this period, Craiova witness a population increase of 91.8%, while the neighbouring communes faced a negative increase, varying from -49.3% as it was the case at Coșoveni, to -12.8% at bucovat (Table

3). Still, we must notice two different periods, with antagonistic trends: from 1966 to 1990, the population generally increased (higher levels between 1966 and 1977), and the period after 1990, with a strong population decline, except for the communes where the suburbanization process was more intense: Podari, Șimnicul de Sus, Pielești, Bresta, Cârcea.

Most of the neighbouring communes are large rural settlements (2,000-6,000 inhabitants) (as ranged by Erdeli&Cucu, 2007), only two communes (Ghercești and Mischii) having between 1,000 and 2,000 inhabitants, while there is only one very large commune, Podari, exceeding 6,000 inhabitants. Most of the settlements have a regressive demographic regime during the 1966-2011 period (Table 3, Fig. 2), their population decreasing with up to 49.3% as it was the case of Coșoveni, except for Breasta (+11.2%), Podari (+15.2%) and Craiova (+91.8%). If at the beginning of the analyzed period, a demographic gain is generally registered, following 1977, there was a net loss in all the settlements. After 2002, two settlements (Coșoveni and Malu Mare) register a strong demographic loss, other two (Ișalnița and Pielești) have no significant variations, while increases are registered in just three communes (Podari, Breasta and Cârcea), as a result of the urban activities spreading towards the periphery and suburbanization process.

The causes for these demographic patterns are much more profound and represent the result of the territorial-administrative changes that occurred after 1968, divisions of the territory of some of the settlements (Coșoveni commune for instance was split in 2004 into tow communes: Coșoveni and Cârcea), as well as of the demographic structures of the neighbouring settlements that were more or less industrialized and the externalization of the towns activities and suburbanization process after 1990.

Table 3: Population dynamics between 1966 and 2011

	1966-1977		1977-1992		1992-2002		2002-2011		1966-2011	
	R _i	R _{air}	R _i	R _{air}	R _i	R _{air}	R _i	R _{air}	R _i	R _{air}
Breasta	12.9	1.0	-8.8	109.1	2.5	0.3	5.2	0.6	11.1	1.19
Bucovăț	10.5	0.8	-21	124.7	-4.4	-0.5	4.4	0.5	-12.8	-1.52
Cârcea	-	-	-	-	-	-	19.5*	-	-	-
Coșoveni	4.3	0.4	-21.5	125.5	-5.7	-0.6	-34.3	-4.6	-49.3	-7.27
Craiova	30.1	2.2	49	68.8	0.2	0	-1.3	-0.2	91.8	7.51
Ghercești	2.3	0.2	-33.3	146.2	-9.9	-1.0	-5.8	-0.7	-42.1	-5.90
Ișalnița	-25.5	-2.4	-5.8	105.8	-5.1	-0.5	-0.5	-0.1	-33.8	-4.48
Malu Mare	6.3	0.5	-18.8	121.7	-2.1	-0.2	-27.4	-3.5	-38.7	-5.30
Mischii	-0.7	-0.1	-36	152.0	-18.5	-2.0	-1.4	-0.2	-49	-7.21
Pielești	6.4	0.5	-24.5	130.2	-9.4	-1.0	1	0.1	-26.4	-3.35
Podari	10.5	0.8	-4.4	104.4	2.1	0.2	6.9	0.7	15.2	1.59
Șimnicu de Sus	6.7	0.5	-29.3	138.5	-3.3	-0.3	6.9	0.8	-22	-2.73

(Data source: Romania statistical yearbooks, Population Census)

R_i - increase rate during the entire period, R_{air} - average annual increase rate

* 2004 (since it has its own administration) – 2011

The demographic patterns (Fig. 2) highlight on the one hand, contradictory demographic dynamics following the disrupting factors (Bucovăț, Șimnicu de Sus, Pielești, Ișalnița, Breasta), and on the other hand the importance of the local factors. It is the typical case of Mischii and Ghercești, northwards from Craiova, lying in the southern part of the Olteț Piedmont, and area with fewer natural resources and weak economic diversification, which are clearly mirrored by their demographic decline. Șimnicu de Sus, although being located in the north, too, had the advantage of an elongated spreading, along the Amaradia valley and an important communication line, unlike the other two located on the piedmont hills.

Population dynamics reflects the major social and economic changes and testifies for the negative increase of Craiova and surrounding settlements population.

The birth rate picked during 1967-1968, as a result of the restrictive measures taken by the communist government, 4 out of 12 communes registering birth rates higher than 30 live births/ 1,000 inhabitants: Breasta, Bucovăț, Coșoveni, Șimnicu de Sus. Still, the legislation influencing births and fertility during a short period of time, this index having ever lower values, which dropped following the end of the communist period and liberalization of modern contraceptive means and abortions. This period marked the end of the demographic transition and, more important, poor life standard, increasing unemployment rate, higher social mobility, higher cost incurred by having a child, and not least, the influence of the Western European model.

Ișalnița, Șimnicu de Sus, Ghercești stand out due to very low birth rates (less than 6‰), while Coșoveni, Malu Mare and Breasta exceed 10‰ (Fig. 3), as a result of the population age structure, the

influence of the typical rural family model and less diversified economy.

Death rates were higher during the post-communist period in all the analysed settlements, testifying for an ever stronger disequilibrium of the age structure, population ageing being a common phenomenon for all the surrounding rural settlements. Compared to Craiova, that registered 8.8‰ in 2010, the highest death rates were registered at Ghercești and Șimnicu de Sus, the two communes from the northern part, that face the greatest negative increase (-12‰).

The diachronic and synchronic evolutions highlight an obvious gap between Craiova and neighbouring villages: higher birth rates in the villages compared to the town, age structure, share of female fertile population, education level, tradition influence, women's role and not least, migrations.

Migrations

Unlike other towns in Romania, Craiova did not show a very powerful attraction, the number of population that came from more than 100 km being quite low. Thus, in 1966, almost half of the dwellers in Craiova were born in the settlements within 50 km distance to the town, and a third from the villages located at 50-100 km away (Popescu, 2008, p. 145). Still, the rural exodus played its part for the population increase that Craiova registered during the 70s and the 80s, despite the restrictive measures taken by the government to stop migration flows towards the big towns. According to the data gathered at the population census from 1992, only 48% of the population from Dolj towns was born in the same town, while 30% and 11.7%, respectively, was born in the rural settlements from the same, or other county (CNS, 1994).

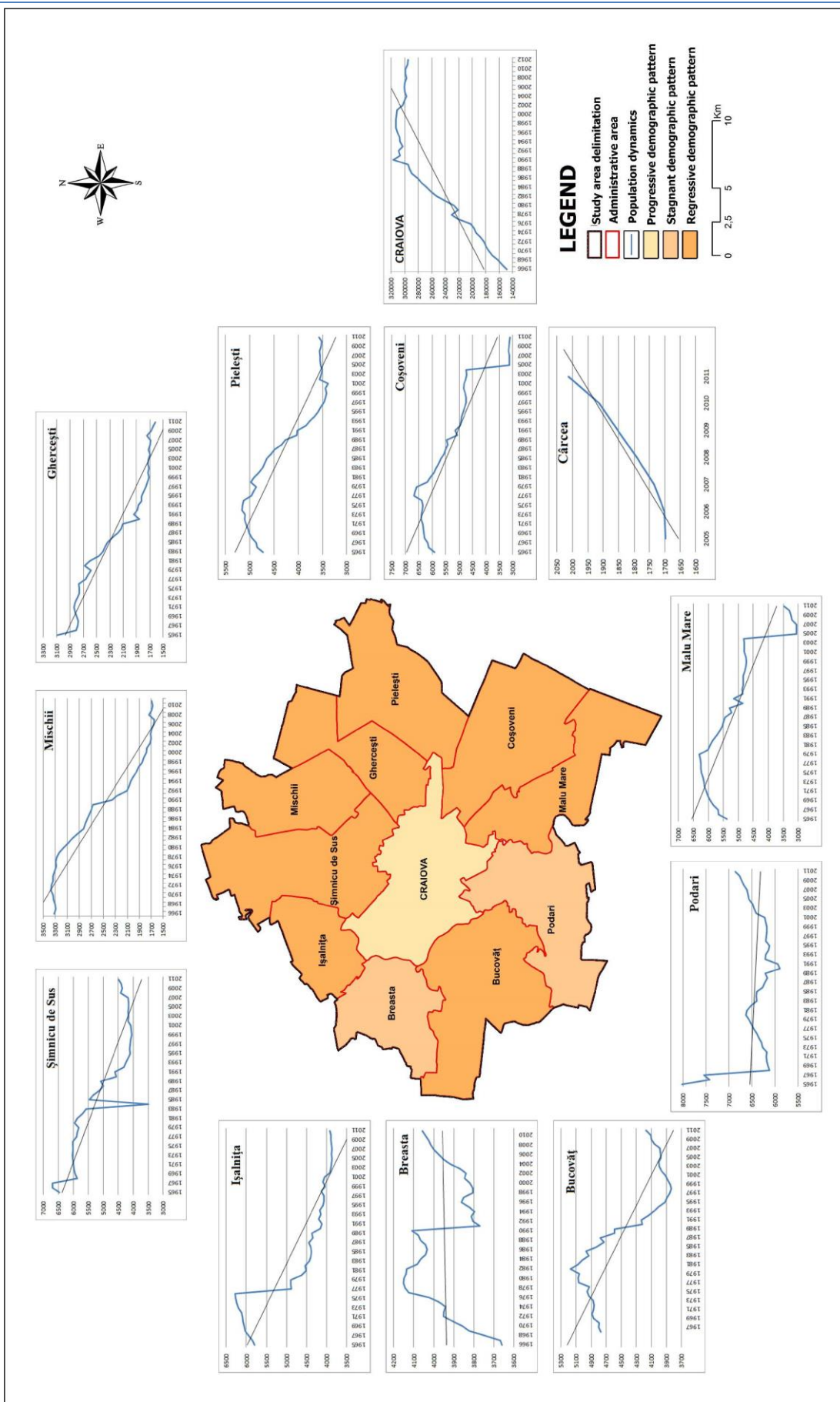


Fig. 2: Population dynamics in Craiova and its peripheries between 1966 and 2011

Fig. 3: Birth and death rates between 1966 and 2011

The highest migration rates peaked at 5,000 – 7,000 persons, i.e. 25-30‰ and were registered during the 1977-1983; still, Craiova had the lowest immigration rate compared to the other county seats in the region (Popescu, 2009), but just like all the big towns from the communist period, had a considerable number of weekly or seasonal commuters (up to 10,000 persons, including students) (Ianoș, 1993).

It is worth mentioning the situation from 1990, when there were no restrictions regarding migration, when Craiova registered the highest immigration rate (117‰), while the neighbouring communes had negative rates, the share of persons that flocked to the city being considerably higher than that of the persons that choose to move to villages (Fig. 4). Actually, there was an official recognition and registration of the population that dwelled de facto in the town before 1989, many of them coming from the neighbouring settlements. The migration boom from 1990 was triggered by the fact that persons from all the age groups migrated, with an increase of the family groups compared to individual migrations (Rotariu&Mezei, 1999, p. 18).

After 1998, there is a general trend of inverse migrations, most of the surrounding settlements registering a positive migratory increase following the return migration (as a result of the difficult economic conditions in towns and retrocession of agricultural lands beginning with 1992). Craiova is the only settlement within the study area that constantly registered a negative migration rate after 1998, due to the bankruptcy of industry and outmigration. Consequently, the free market

succeeded to accomplish what the communist administration had failed (Kupiszewski et.al., 1997).

Now, the communes neighbouring Craiova have the lowest migration rates within the county, only 5 to 7% of their population registered at 2011 census being temporarily or for a long period absent from home, compared to some communes and towns within the southern part of Dolj county, where 15 to 25% of the population was absent from home (Licurici&Popescu, 2013). Thus, even in the communes registering the highest number of temporarily absent persons, their share in the total population is very low (Bucovăț 2.4%, Malu Mare 1.9%), with less than 3%, except for Podari (5.8%). the proportion of those absent for a long period is a bit higher: Ișalnița 4.7%, Pielești 4%, Malu Mare 3.7%, Craiova 3.3%.

The general demographic balance highlights the latent demographic crisis of the demographic system, pointing to a significant disequilibrium between inputs and outputs (natural and migratory ones) and the emergence of new factors and mechanisms (Ghețău, 2007).

In order to better understand the mechanisms that triggered the demographic changes, we used the classification proposed by Webb (1966). Thus, for 2011, most of the communes (5) have population increase due to net in-migration (D class) and other 3 communes register a population decrease (E class) (although there is net in-migration, there is a greater natural decrease), while no communes are found in B and C classes (Table 4).

Table 4: The Webb classification of demographic regimes

Year	Craiova	Râmnicu-Vâlcea	Drobeta Turnu-Severin	Târgu-Jiu	Slatina
A	Population increase	Natural increase (NI)	Net out-migration		-
B	Population increase	Natural increase	Net In-Migration	NI>NIM	-
C	Population increase	Natural increase	Net In-Migration	NI<NIM	-
D	Population increase	Natural Decrease (ND)	Net In-Migration		Breasta, Cârcea, Mischii, Șimnicul de Sus, Podari, Ișalnița, Pielești, Malu Mare
E	Population decrease	Natural Decrease	Net In-Migration		Bucovăț, Coșoveni, Ghercești
F	Population decrease	Natural Decrease	Net out-migration	ND<NOM	-
G	Population decrease	Natural Decrease	Net out-migration	ND>NOM	-
H	Population decrease	Natural increase	Net out-migration		Craiova

Kupiszewski et al., 1991, pg. 32

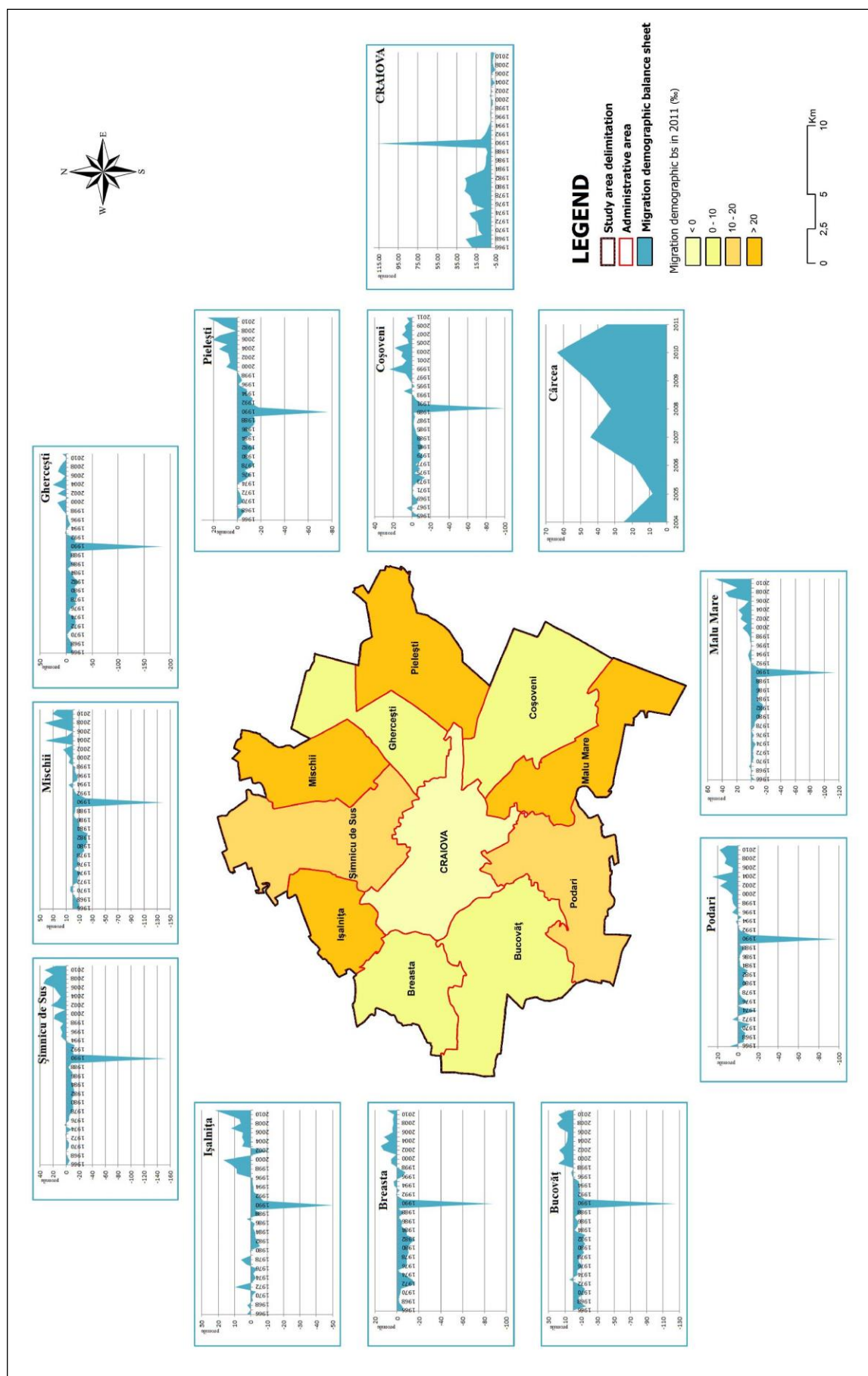


Fig. 4: Migration rate for Craiova and its peripheries between 1966 and 2011

Conclusion

A complex analysis of human resources is highly necessary in order to fully understand the characteristics of human settlements. The demographic dynamics (together with the population age structure), points to the town vitality and offers a genuine perspective on the evolution of the human factor and its potential to influence the urban development one way or another.

Craiova and its peripheries are witnessing significant demographic changes, following several unfavourable demographic mechanisms: considerable decrease of birth rates, below the death rate, demographic ageing process with severe economic and social effects. Unfortunately, the negative trend of population dynamics and the demographic characteristics will continue, at least in the near future.

As a result of the lower number of inhabitants and strong dependency to the center, the suburban communes as well as those neighbouring the town witness significant oscillations, being more vulnerable from the demographic point of view than the town itself. This is a proof of spatial inequalities related to the rural area, local resources that were not properly capitalized and, not least, the relationships between the polarizing town and its peripheries.

The study concludes that for Craiova municipality, the urban growth and suburbanization phenomenon testify for changes of the territorial relations with the neighbouring rural communes, as well as changes in the lifestyle and consumption models rather than a population increase.

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