THE ROMANIAN POPULATION BY GENDER AND AGE GROUPS IN 2011

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ABSTRACT. – The Romanian Population by Gender and Age Groups in 2011. Following the previous studies on the demographic characteristics of the Romanian population, ethnicity and religion, this study covers the geodemographic issues of gender and age groups. As compared to the previous studies, our analysis covers these major population features in strong connection with the numerical evolution of the population, strongly determined by the socioeconomic background before 1990 and afterwards. We used the official data of the census in 2011 provided by the National Institute of Statistics. In order to create a representative picture of the Romanian population by gender and age groups, we employed the data illustrating the state of these two indicators in tables and maps. As compared to the values registered in 1992, the Romanian population in 2011 registered a decrease of 11.79%, relatively balanced in terms of gender structure, the male population holding a share of 48.65% and the female population, a share of 51.35%. The age structure also reveals a relative balance between active adult population (56.32%) and the young and old population, together holding a share of 43.68%. Spatially, the structure of the Romanian population by gender and age structure, show differences at county level and also at a larger scale.

Keywords: geodemographic structure, gender, age groups, sex ratio, county, geographical-historical provinces, Romania.

1. INTRODUCTION

The study on demographic issues is of particular importance in shaping the socioeconomic development framework at national level. The study on population by gender and age structure reveals significant issues (demographic ageing, fertility level, sex ratio, active workforce, the age dependency ratio) to be taken into consideration when designing socioeconomic policies to sustainably support the evolution of a country and its inhabitants. The studies on the geodemographic features of the Romanian population have been subject of debate of the first author of this study since 1971 at regional level (Crişurilor Plain) followed in 1972 by a comprehensive analysis of the Romanian population from the economic perspective (*Romania. Economic Geography*, pp. 53-80 and *The Romanian Counties. Bihor County*, pp. 66-82 and 94-99). Up to 1990, seven other studies were elaborated, approaching different population issues at different spatial levels in Romania. After 1990, research has been widened, bringing out conclusive facts on the demographic issues at locality level (Dej, Mănăstireni and Ţaga, Cluj County) at county level (*The Romanian Counties. Cluj County*) and then a series of studies debating the Romanian migration abroad (focusing on the period 1980-2001), national population structure, population by gender, age groups, ethnicity and religion.

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2. THE ROMANIAN POPULATION BY GENDER AND AGE GROUPS AT THE CENSUS IN 2011

The analysis of the population was carried out following the geographical pattern to highlight the specifics of the two geodemographic components within the borders of the Romanian territory. Thus, our results are shown taking into consideration the gender structure (results being grouped into three categories – male, female and both genders) and the age groups, in this case we taking into account three subsets of age, as follows: *0-19 years* (young population), *20-59 years* (adult population) and *60 years and over* (old population). The results and conclusions of the analysis are spatially accounted for counties and geographical-historical provinces.

2. 1. The general structure of the Romanian population by gender and age groups at the census in 2011

According to the census in 2011, the general structure of the Romanian population (20,121,641 inhabitants) shows a relative balance in terms of gender structure, the male population registering 48.65% of the total resident population, as compared to the 51.35% registered by the female population, as displayed in table 1.

Table 1.

The Romanian population by gender and age groups at the census in 2011

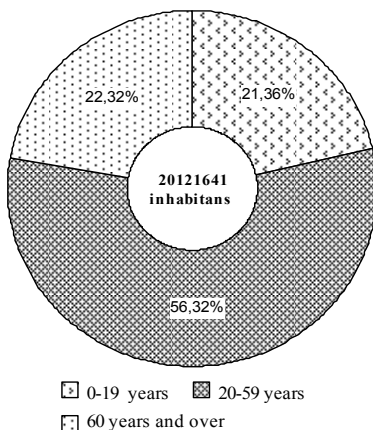| Romania	Gender	Total resident population	0-19 years	%	20-59 years	%	60 years and over	%
	Both	20,121,641	4,298,099	21.36	11,331,512	56.32	4,492,030	22.32
	Male	9,788,577	2,206,383	22.54	5,702,392	58.26	1,879,802	19.20
	Female	10,333,064	2,091,716	20.24	5,629,120	54.48	2,612,228	25.28

Fig. 1. The structure of the Romanian population by age groups in 2011.

From the situation displayed in table 1, we can note that in 2011, the major age groups of the Romanian population registered the following values of the total number of inhabitants: *both genders* – young (21.36%), adult (56.32%) and old (22.32%) (see fig. 1); in the case of *male population,* the young group registered 22.54%, the adult group had a share of 58.26% and the old group recorded 19.20% of the total number of men; in the case of *female population*, the young group was represented by 20.24% of the total women, the adult group recording 54.48%, and the old group holding a share of 25.28%.

2. 2. Spatial distribution of the Romanian population by gender and age groups at county level

In this section we present the main results of the research on the structure of the Romanian population by gender and age structure at county level.

2. 2. 1. The structure of the Romanian population by gender

Data reveal particularities at county level and also in terms of the major three age groups (see table 2).

a) *The young population group (0-19 years*), holding a share of 21.36% of the total Romanian population, reveals differences at county level. The lowest share of young population (16.40%) is registered in Bucharest Municipality, followed by the counties of Brăila, Cluj, Hunedoara, Prahova, Teleorman, Timiş with values below the average (*up to 20%*). The highest values of the young population (*above 20%)* are registered in only six counties: Bacău, Bistriţa-Năsăud, Botoşani, Iaşi, Suceava and Vaslui (26.17%). With values close to the average (*20-22%*) we find 15 of the counties, as follows: Alba, Arad, Argeş, Braşov, Buzău, Caraş-Severin, Constanţa, Dâmboviţa, Dolj, Giurgiu, Ilfov, Mehedinţi, Olt, Tulcea and Vrancea.

Table 2.

The structure of the Romanian population by age groups (both genders) at county level in 2011

Crt. no.	Counties	Both genders	Total resident population	Age groups					
				0-19 years	%	20-59 years	%	60 years and over	%
	ROMANIA	BG	20121641	4298099	21.36	11331512	56.32	4492030	22.32
1	Alba	BG	342376	71281	20.82	190581	55.66	80514	23.52
2	Arad	BG	430629	89857	20.87	242926	56.41	97846	22.72
3	Argeş	BG	612431	124223	20.28	350653	57.26	137555	22.46
4	Bacău	BG	616168	149468	24.26	327393	53.13	139307	22.61
5	Bihor	BG	575398	127883	22.23	326078	56.67	121437	21.10
6	Bistriţa-N.	BG	286225	69848	24.40	157225	54.93	59152	20.67
7	Botoşani	BG	412626	104211	25.26	212289	51.45	96126	23.30
8	Braşov	BG	549217	112439	20.47	323009	58.81	113769	20.71
9	Brăila	BG	321212	63169	19.67	176341	54.90	81702	25.44
10	Buzău	BG	451069	94413	20.93	240320	53.28	116336	25.79
11	Caraş-Sev.	BG	295579	60862	20.59	164484	55.65	70233	23.76
12	Călăraşi	BG	306691	69693	22.72	162364	52.94	74634	24.34
13	Cluj	BG	691106	130859	18.93	408579	59.12	151668	21.95
14	Constanţa	BG	684082	143634	21.00	403187	58.94	137261	20.06
15	Covasna	BG	210177	47893	22.79	118653	56.45	43631	20.76
16	Dâmboviţa	BG	518745	113747	21.93	291895	56.27	113103	21.80
17	Dolj	BG	660544	133483	20.21	367271	55.60	159790	24.19
18	Galaţi	BG	536167	118270	22.06	300012	55.95	117885	21.99
19	Giurgiu	BG	281422	60665	21.56	147756	52.50	73001	25.94
20	Gorj	BG	341594	75195	22.01	195078	57.11	71321	20.88
21	Harghita	BG	310867	70391	22.64	174391	56.10	66085	21.26
22	Hunedoara	BG	418565	82147	19.63	237126	56.65	99292	23.72

Crt. no.	Counties	Both genders	Total resident population	Age groups					
				0-19 years	%	20-59 years	%	60 years and over	%
23	Ialomiţa	BG	274148	63137	23.03	146364	53.39	64647	23.58
24	Iaşi	BG	772348	193783	25.09	427852	55.40	150713	19.51
25	Ilfov	BG	388738	85332	21.95	232672	59.85	70734	18.20
26	Maramureş	BG	478659	109803	22.94	272257	56.88	96599	20.18
27	Mehedinţi	BG	265390	55197	20.80	145206	54.71	64987	24.49
28	Mureş	BG	550846	123353	22.39	304368	55.25	123125	22.35
29	Neamţ	BG	470766	107908	22.92	244849	52.01	118009	25.07
30	Olt	BG	436400	90271	20.69	235904	54.06	110225	25.26
31	Prahova	BG	762886	151806	19.90	430520	56.43	180560	23.67
32	Satu Mare	BG	344360	79876	23.20	198150	57.54	66334	19.26
33	Sălaj	BG	224384	51254	22.84	119997	53.48	53133	23.68
34	Sibiu	BG	397322	88456	22.26	228822	57.59	80044	20.15
35	Suceava	BG	634810	165418	26.06	332514	52.38	136878	21.56
36	Teleorman	BG	380123	73369	19.30	188878	49.69	117876	31.01
37	Timiş	BG	683540	133000	19.46	417232	61.04	133308	19.50
38	Tulcea	BG	213083	45783	21.49	119129	55.91	48171	22.61
39	Vaslui	BG	395499	103534	26.17	201054	50.84	90911	22.99
40	Vâlcea	BG	371714	75951	20.43	201072	54.09	94691	25.47
41	Vrancea	BG	340310	78332	23.02	177846	52.26	84132	24.72
42	Bucharest	BG	1883425	308905	16.40	1189215	63.14	385305	20.46

Source: *National Institute of Statistics.*

b) The adult population group (20-59 years) holds the largest share (56.32%) of the Romanian population at national level. Almost half of the national counties register values close to this average (55-57%), as follows: Alba, Arad, Caraş-Severin, Covasna, Dâmboviţa, Dolj, Galaţi, Haghita, Hunedoara, Iaşi, Maramureş, Mureş, Prahova, Tulcea and Bihor. Only eight of the national counties register values above this average (57-59%), as follows: Argeş, Braşov, Cluj, Constanţa, Gorj, Ilfov, Satu Mare and Sibiu. The highest shares of adult population at national level are registered in Timiş county and Bucharest Municipality with over 60% of the population. Another 17 counties register values below the average (below 55%): Bacău, Bistriţa-Năsăud, Botoşani, Brăila, Buzău, Călăraşi, Giurgiu, Ialomiţa, Mehedinţi, Neamţ, Olt, Sălaj, Suceava, Vaslui, Vâlcea, Vrancea, while the lowest values are registered by Teleorman County (49.69%).

c) The old population group (60 years and over) holds a share of 22.32% of the total Romanian population, which is almost the same value of the young group (21.36%). The highest share of old population (over 25%) is registered in seven of the total counties at national level, as follows: Brăila, Buzău, Giurgiu, Neamţ, Olt, and Teleorman (with the highest value in the country - 31.01%). Almost all the counties in Romania register values very close to the national average, either a little over or a little below. The lowest share of old population we find in Ilfov county (18.20%), along with other counties registering values below 21% (Bistriţa-Năsăud, Braşov, Constanţa, Covasna, Gorj, Iaşi).
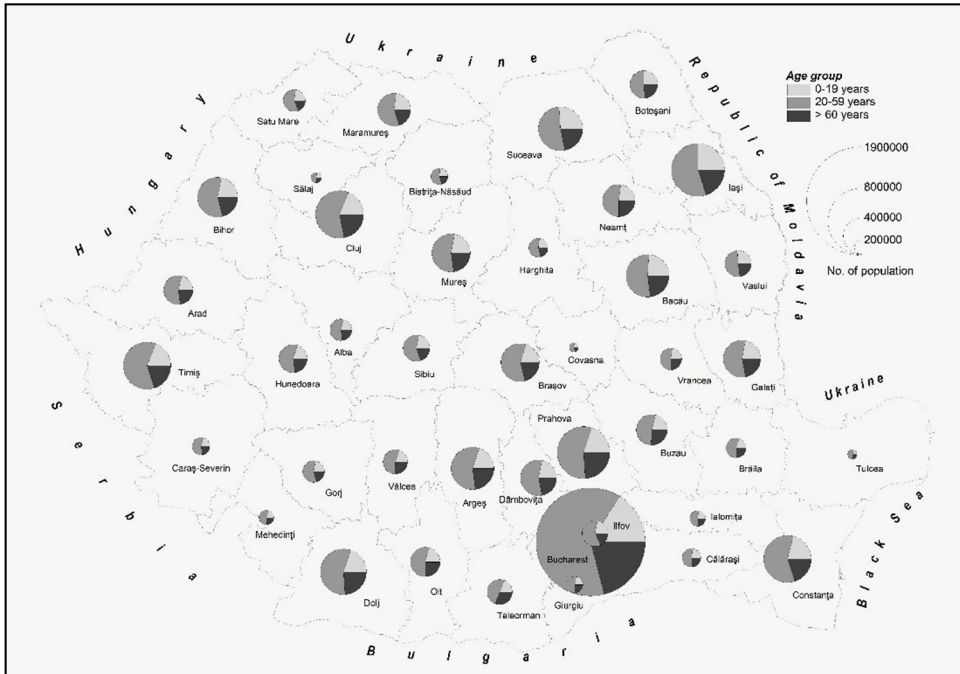
Fig. 2. The structure of the Romanian population by age groups (both genders) at county level in 2011.

2. 2. 2. The male population

The male population holds a share of 48.65%, which represents almost half of the entire national population. In case of three main age groups the shares held by each one of them is as follows: *the young group (0-19 years) – 22.54%*, *the adult group (20 - 59 years) – 58.26%*, and *the old group (60 years and over) – 19.20%* (see table 3 and fig. 2). The spatial distribution at county level reveals differences from one county to another.
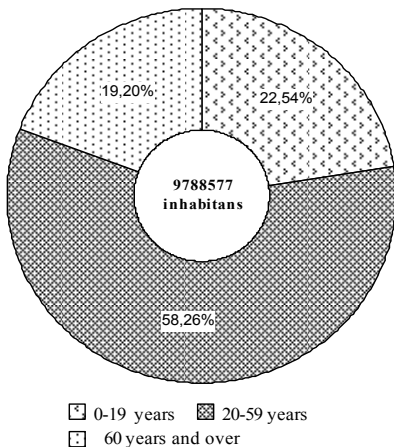
a) the young group (0-19 years) – with a share of 22.54% at national level – is distributed almost evenly among the counties. The lowest values of the young male population are registered in 5 counties: Brăila, Cluj, Hunedoara, Teleorman, Timiş and Bucharest municipality – with the lowest value at national level (18.00%). With values as the average (21-23%), we find 16 of the counties: Alba, Arad, Argeş, Braşov, Buzău, Caraş-Severin, Constanţa, Dâmboviţa, Dolj, Galaţi, Giurgiu, Mehedinţi, Olt, Prahova, Tulcea and

Fig. 3. The structure of the Romanian male population by age groups in 2011.

Vâlcea, while other 16 counties register values above the average (23-25%): Bihor, Călăraşi, Covasna, Gorj, Harghita, Ialomiţa, Ilfov, Maramureş, Mureş, Neamţ, Satu Mare, Sălaj, Sibiu şi Vrancea. The highest values of young male population (over 25%) are registered in only 6 counties, as follows: Bacău, Bistriţa-Năsăud, Botoşani, Iaşi, Suceava (27.28%) and Vaslui.

b) *the adult group (20-59 years),* with a share of 58.26% at national level, is also distributed almost evenly at county level. Thus, 17 counties register values close to the average (57-59%): Alba, Arad, Bihor, Brăila, Caraş-Severin, Covasna, Dâmboviţa, Dolj, Galaţi, Harghita, Hunedoara, Iaşi, Maramureş, Mehedinţi, Mureş, Prahova and Tulcea, and other 15 counties register values below 57%: Bacău, Bistriţa-Năsăud, Botoşani, Buzău, Călăraşi, Giurgiu, Ialomiţa, Neamţ, Olt, Sălaj, Suceava, Vaslui, Vâlcea, Vrancea and Teleorman (with the lowest value in this group, of only 52.76%). The highest values of the male adult population (over 61%) are registered in 2 administrative units: Timiş county and Bucharest municipality (64.40%).

Table 3.

**The structure of the Romanian male population
by age groups at county level in 2011**

Crt. no.	County	Gender	Total population	Age groups					
				0-19 years	%	20-59 years	%	60 years and over	%
0	**Romania**	M	9788577	2206383	22.54	5702392	58.26	1879802	19.20
1	Alba	M	168451	37032	21.98	96786	57.46	34633	20.56
2	Arad	M	207508	46274	22.30	120898	58.26	40336	19.44
3	Argeş	M	298111	63710	21.37	176773	59.30	57628	19.33
4	Bacău	M	304000	76673	25.22	167513	55.10	59814	19.68
5	Bihor	M	279360	65527	23.46	163337	58.47	50496	18.08
6	Bistriţa-N.	M	141613	35515	25.08	80198	56.63	25900	18.29
7	Botoşani	M	203186	53414	26.29	109875	54.08	39897	19.64
8	Braşov	M	267351	57865	21.64	160907	60.19	48579	18.17
9	Brăila	M	156661	32731	20.89	90071	57.49	33859	21.61
10	Buzău	M	219934	48534	22.07	122841	55.85	48559	22.08
11	Caraş-Severin	M	143852	31325	21.78	82953	57.67	29574	20.56
12	Călăraşi	M	150076	35982	23.98	82775	55.16	31319	20.87
13	Cluj	M	332579	66349	19.95	202192	60.80	64038	19.25
14	Constanţa	M	333347	73504	22.05	201594	60.48	58249	17.47
15	Covasna	M	103454	24504	23.69	59952	57.95	18998	18.36
16	Dâmboviţa	M	254397	58477	22.99	149682	58.84	46238	18.18
17	Dolj	M	322485	68781	21.33	186702	57.89	67002	20.78
18	Galaţi	M	264177	60728	22.99	153059	57.94	50390	19.07
19	Giurgiu	M	137575	31408	22.83	76271	55.44	29896	21.73
20	Gorj	M	168740	38810	23.00	99710	59.09	30220	17.91
21	Harghita	M	153572	35891	23.37	88964	57.93	28717	18.70
22	Hunedoara	M	203981	42117	20.65	119975	58.82	41889	20.54
23	Ialomiţa	M	134647	32250	23.95	75588	56.14	26809	19.91
24	Iaşi	M	381844	98899	25.90	219163	57.40	63782	16.70
25	Ilfov	M	189590	44177	23.30	116098	61.24	29315	15.46
26	Maramureş	M	234664	56555	24.10	137728	58.69	40381	17.21
27	Mehedinţi	M	130333	28551	21.91	74330	57.03	27452	21.06
28	Mureş	M	268941	63418	23.58	153968	57.25	51555	19.17
29	Neamţ	M	231508	55693	24.06	125486	54.20	50329	21.74

Crt. no.	County	Gender	Total population	Age groups					
				0-19 years	%	20-59 years	%	60 years and over	%
30	Olt	M	214285	46641	21.77	121479	56.69	46165	21.54
31	Prahova	M	369695	77977	21.09	217719	58.89	73999	20.02
32	Satu Mare	M	166344	40895	24.58	99211	59.64	26238	15.77
33	Sălaj	M	109194	26143	23.94	60987	55.85	22064	20.21
34	Sibiu	M	192714	45231	23.47	113941	59.12	33542	17.41
35	Suceava	M	312920	85363	27.28	168789	53.94	58768	18.78
36	Teleorman	M	186008	38209	20.54	98134	52.76	49665	26.70
37	Timiş	M	329176	67788	20.59	206632	62.77	54756	16.63
38	Tulcea	M	106006	23613	22.28	61371	57.89	21022	19.83
39	Vaslui	M	197704	53120	26.87	105594	53.41	38990	19.72
40	Vâlcea	M	180912	38891	21.50	101491	56.10	40530	22.40
41	Vrancea	M	166152	40081	24.12	90389	54.40	35682	21.48
42	Bucharest	M	871530	157737	18.10	561266	64.40	152527	17.50

Source: *National Institute of Statistics.*
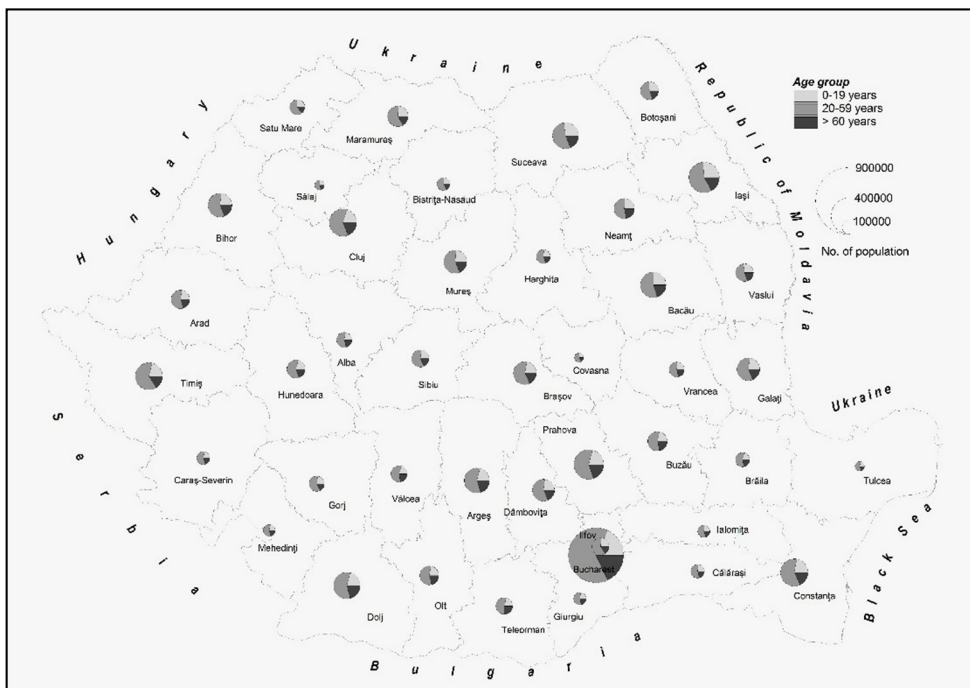 M = Male, Bistriţa-N. = Bistriţa-Năsăud.

Fig. 4. The structure of the Romanian male population by age groups at county level in 2011.

About 10 counties register values between 57% and 59% adult population of the total male inhabitants: Argeş, Braşov, Cluj, Constanţa, Gorj, Ilfov, Satu Mare and Sibiu.

c) The old population group (over 60 years) holds a share of 19.20% from the total population at national level. The highest number of male inhabitants over 60 years old we find in Teleorman county (26.70%), whilst other 8 counties register values over the national average (21-23%), as follows: Brăila, Buzău, Giurgiu, Mehedinţi, Neamţ, Olt, Vâlcea and Vrancea. The lowest values of elderly male population (below 19%) are registered in 15 of the Romanian counties: Bihor, Bistriţa-Năsăud, Braşov, Constanţa, Covasna, Dâmboviţa, Gorj, Harghita, Iaşi, Maramureş, Satu Mare, Sibiu, Suceava, Timiş, Bucharest and Ilfov (with 15.46%, which is the lowest value of old male population at national level). The other 17 counties register values close to the national average (19-21%).

2. 2. 3. The female population

Representing 51.35% of the total national population in 2011, the female population brings out certain particularities as compared to the male one. In case of the three main age groups the shares held by each one of them is as follows: *the young group (0-19 years)* – 20.24%, *the adult group (20 - 59 years)* – 54.48%, and *the old group (60 years and over)* – 25.28% (see table 1 and fig. 3). The spatial distribution at county level reveals some particularities.
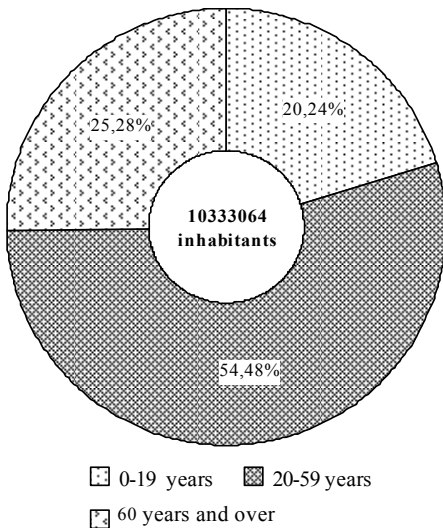

a) The young female group (0-19 years), with a share of 20.24 % at national level is distributed almost evenly within the national territory. The lowest values of female young population group (below 19%) we find in the counties of Brăila, Cluj, Hunedoara, Prahova, Teleorman, Timiş and Bucharest, the capital city registering the lowest value at national level (14.94%). The highest values (over 23%) we find in the counties of Bacău, Bistriţa-Năsăud, Botoşani, Iaşi, Suceava and Vaslui (25.49%, which is the highest at national level). The rest of the counties register values close to the average, about 15 of them with values of 19-21%, and other 14 counties with values of 21-23%.

b) The adult female group (20-59 years), with a share of 54.48% of the total Romanian female population, is distributed evenly with the national territory. A number of 15 counties register values close to the national average

Fig. 5. The structure of the Romanian female population by age groups in 2011.

(53-55%): Alba, Arad, Bihor, Bistriţa-Năsăud, Caraş-Severin, Covasna, Dâmboviţa, Galaţi, Harghita, Hunedoara, Iaşi, Mureş, Prahova and Tulcea, and only 5 counties register values of 51-53%: Bacău, Brăila, Olt, Sălaj and Vâlcea. Less than 51% of adult female population is registered in 11 counties: Botoşani, Buzău, Călăraşi, Giurgiu, Ialomiţa, Mehedinţi, Neamţ, Suceava, Teleorman (with only 46.75%), Vaslui and Vrancea. The highest number of female population (over 55%) is recorded in 11 counties: Argeş, Braşov, Cluj, Constanţa, Gorj, Ilfov, Maramureş, Satu Mare, Sibiu, Timiş and Bucharest with the highest share of adult female population, of 62.06%.

The structure of the Romanian female population
by age groups at county level in 2011

No	County	Gender	Total population	0-19 years	%	20-59 years	%	60 years and over	%
0	**Romania**	F	10333064	2091716	20.24	5629120	54.48	2612228	25.28
1	Alba	F	173925	34249	19.69	93795	53.93	45881	26.38
2	Arad	F	223121	43583	19.53	122028	54.69	57510	25.78
3	Argeş	F	314320	60513	19.25	173880	55.32	79927	25.43
4	Bacău	F	312168	72795	23.32	159880	51.22	79493	25.46
5	Bihor	F	296038	62356	21.06	162741	54.97	70941	23.96
6	Bistriţa-N.	F	144612	34333	23.74	77027	53.26	33252	22.99
7	Botoşani	F	209440	50797	24.25	102414	48.90	56229	26.85
8	Braşov	F	281866	54574	19.36	162102	57.51	65190	23.13
9	Brăila	F	164551	30438	18.50	86270	52.43	47843	29.07
10	Buzău	F	231135	45879	19.85	117479	50.83	67777	29.32
11	Caraş-S.	F	151727	29537	19.47	81531	53.74	40659	26.80
12	Călăraşi	F	156615	33711	21.52	79589	50.82	43315	27.66
13	Cluj	F	358527	64510	17.99	206387	57.57	87630	24.44
14	Constanţa	F	350735	70130	20.00	201593	57.48	79012	22.53
15	Covasna	F	106723	23389	21.92	58701	55.00	24633	23.08
16	Dâmboviţa	F	264348	55270	20.91	142213	53.80	66865	25.29
17	Dolj	F	338059	64702	19.14	180569	53.41	92788	27.45
18	Galaţi	F	271990	57542	21.16	146953	54.03	67495	24.82
19	Giurgiu	F	143847	29257	20.33	71485	49.70	43105	29.97
20	Gorj	F	172854	36385	21.05	95368	55.17	41101	23.78
21	Harghita	F	157295	34500	21.93	85427	54.31	37368	23.76
22	Hunedoara	F	214584	40030	18.65	117151	54.59	57403	26.75
23	Ialomiţa	F	139501	30887	22.14	70776	50.74	37838	27.12
24	Iaşi	F	390504	94884	24.30	208689	53.44	86931	22.26
25	Ilfov	F	199148	41155	20.67	116574	58.54	41419	20.80
26	Maramureş	F	243995	53248	21.82	134529	55.14	56218	23.04
27	Mehedinţi	F	135057	26646	19.73	70876	52.48	37535	27.79
28	Mureş	F	281905	59935	21.26	150400	53.35	71570	25.39
29	Neamţ	F	239258	52215	21.82	119363	49.89	67680	28.29
30	Olt	F	222115	43630	19.64	114425	51.52	64060	28.84
31	Prahova	F	393191	73829	18.78	212801	54.12	106561	27.10
32	Satu Mare	F	178016	38981	21.90	98939	55.58	40096	22.52
33	Sălaj	F	115190	25111	21.80	59010	51.23	31069	26.97
34	Sibiu	F	204608	43225	21.13	114881	56.15	46502	22.73
35	Suceava	F	321890	80055	24.87	163725	50.86	78110	24.27
36	Teleorman	F	194115	35160	18.11	90744	46.75	68211	35.14
37	Timiş	F	354364	65212	18.40	210600	59.43	78552	22.17
38	Tulcea	F	107077	22170	20.70	57758	53.94	27149	25.35
39	Vaslui	F	197795	50414	25.49	95460	48.26	51921	26.25
40	Vâlcea	F	190802	37060	19.42	99581	52.19	54161	28.39
41	Vrancea	F	174158	38251	21.96	87457	50.22	48450	27.82
42	Bucharest	F	1011895	151168	14.94	627949	62.06	232778	23.00

Source: National Institute of Statistics.

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c) The old female group (60 years and over), with a share of 25.28% of the total female population, is distributed evenly within the territory. The highest number of old female population (over 29%) is registered in 4 counties (Brăila, Buzău, Giurgiu) and Teleorman with the highest value at national level (35.14%). About 15 counties have values between 24% and 26%: Alba, Arad, Argeş, Bacău, Botoşani, Caraş-Severin, Cluj, Dâmboviţa, Galaţi, Hunedoara, Mureş, Sălaj, Suceava, Tulcea and Vaslui, and other 14 counties regiester values below 24%: Bihor, Bistriţa-Năsăud, Braşov, Constanţa, Covasna, Gorj, Harghita and Iaşi. The county of Ilfov has the lowest share of old female population (20.80%), along with Maramureş, Satu Mare, Sibiu, Timiş and Bucharest. Other 9 counties register shares of 27-29%, as follows: Călăraşi, Dolj, Ialomiţa, Mehedinţi, Neamţ, Olt, Prahova, Vâlcea and Vrancea.
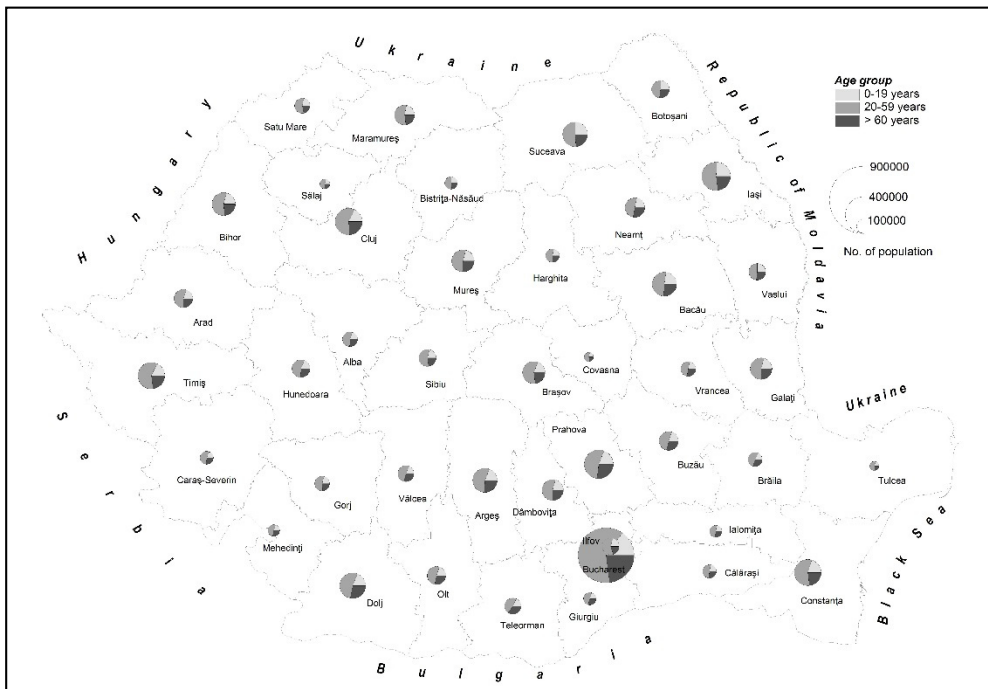
Fig. 6. The structure of the Romanian female population by age groups at county level in 2011.

2. 3. The structure of the Romanian population by age groups at the level of geographical-historical provinces in 2011

In this section of our study we analyze the distribution of the Romanian population at a larger territorial scale, at provinces level (*Transylvania*, *Moldavia*, *Dobrogea*, *Muntenia*, *Banat*, *Oltenia*, *Crişana* and *Maramureş*) to be able to emphasize on the differences in their spatial distribution and draw the general conclusions on our research topic. We follow

the same pattern of analysis, highlighting the state of the total Romanian population first by gender and then by age groups, followed by the analysis of the female and male population by age structure, considering the three main age groups.

2. 3. 1. The Romanian population by age structure

We worked with the data on the total population, by age structure, to show the particularities at the level of historical-geographical provinces (table 5).

a) The young group (0-19 years), holding a share of 21.36%, is distributed among the provinces as follows: values of 20-22% are registered in the provinces of Transylvania, Dobrogea, Muntenia, Oltenia and Banat; values of 22-24% are recorded in the provinces of Crişana and Maramureş; the highest share of young population is registered in Moldavia province (24,43%); Bucharest municipality holds the lowest share of young population (only 16.40%).

Table 5.

**The structure of the Romanian population by age groups (both genders)
at the level of geographical-historical provinces in 2011**

No.	Province	Gender	Total population	Age groups					
				0-19 years	%	20-59 years	%	60 years and over	%
	Romania	**B**	**20121641**	**4298099**	**21.36**	**11331512**	**56.32**	**4492030**	**22.32**
1	Transylvania	B	3981085	847921	21.30	2262751	56.84	870413	21.86
2	Moldavia	B	4178694	1020924	24.43	2223809	53.22	933961	22.35
3	Dobrudja	B	897165	189417	21.11	522316	58.22	185432	20.67
4	Muntenia	B	4297465	899554	20.93	2367763	55.10	1030148	23.97
5	Oltenia	B	2075642	430097	20.72	1144531	55.14	501014	24.14
6	Banat	B	1409748	283719	20.13	824642	58.50	301387	21.38
7	Crişana	B	575398	127883	22.23	326078	56.67	121437	21.10
8	Maramureş	B	823019	189679	23.05	470407	57.16	162933	19.80
9	Bucharest	B	1883425	308905	16.40	1189215	63.14	385305	20.46

Source: National Institute of Statistics.

b) The adult group (20-59 years), holding a share of 56.32% at national level shows the following particularities at provinces level: 4 provinces register values of 55-57% (Transilvania, Muntenia, Oltenia and Crişana); 3 of them values of 57-59% (Dobrogea, Banat and Maramureş); the highest share of adult population is found in Bucharest (63,14%), while the lowest is recorded in the Moldavia Province (53.22%).

c) The old group (60 years and over), holds a share of 22.32%, with 0.96% higher than the young one. Spatially, four of the provinces register values close to this average with shares of 21-23% (Transylvania, Moldavia, Banat and Crişana), followed by Dobrogea, and Maramureş with values below 21%, and Muntenia and Oltenia with values above the average (23-25%). The lowest values of the old population group are registered in Bucharest (19.80%) while the highest values are registered in Oltenia province (24.14%).
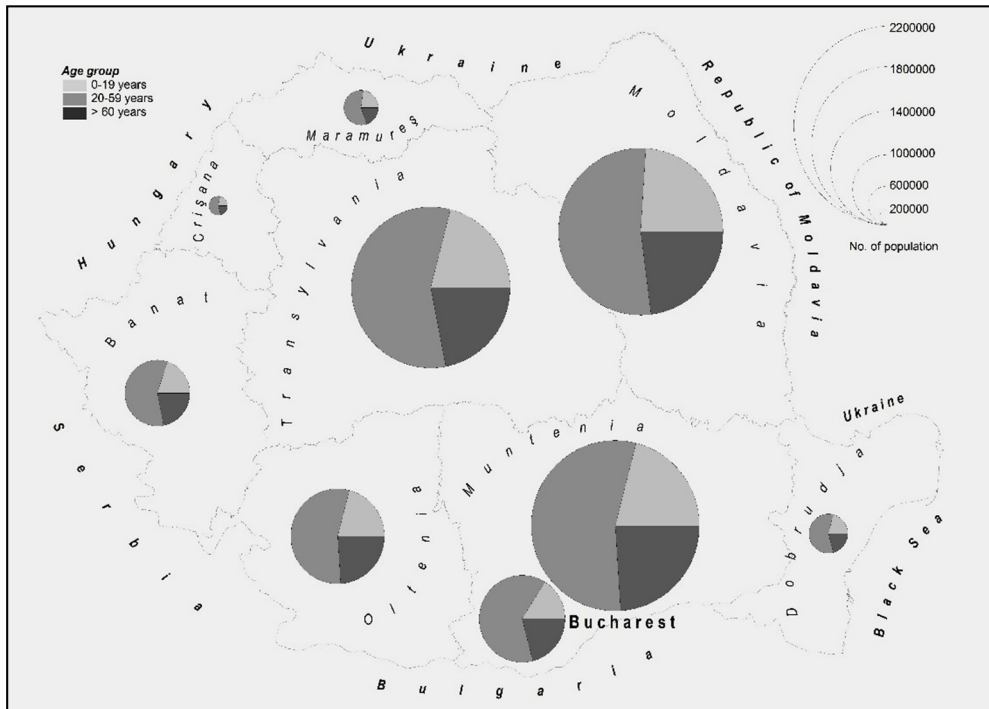
Fig. 7. The structure of the Romanian population by age groups (both genders) at provinces level in 2011.

2. 3. 2. The male population at national level

Representing 48.65% of the total Romanian population, the male population by age structure is distributed specifically among the provinces (see table 6).

a) The young male population group (0-19 years), with a share of 22.54% of the total Romanian population, is distributed evenly at provinces level, registering values close to the average, as follows: 21-23%, in Transylvania, Dobrogea, Muntenia, Oltenia and Banat, 23-25% in Crişana and Maramureş. The lowest number of young male population is registered in Bucharest (18.10%) while the highest share of young male population is registered in Moldavia province (25.42%) (see table 6).

b) The adult male population group (20-59 years), holds a share of 58.26% of the total population at national level. Values of 57-59% are registered in Transylvania, Muntenia and Oltenia, and values of 59-61% in Dobrogea, Banat and Maramureş. The lowest share of adult male population is registered in Moldavia province (52.29%) whereas the highest share of is registered in Bucharest (over 61%).

Table 6.

The structure of the Romanian male population by age groups at provinces level in 2011

No.	Province	Gender	Total population	Age groups					
				0-19 years	%	20-59 years	%	60 years and over	%
0	**Romania**	**M**	**9788577**	**2206383**	**22.54**	**5702392**	**58.26**	**1879802**	**19.20**
1	Transylvania	M	1941850	434065	22.35	1137870	58.60	369915	19.05
2	Moldova	M	2061491	523971	25.42	1139868	55.29	397652	19.29
3	Dobrudja	M	439353	97117	22.10	262965	59.85	79271	18.04
4	Muntenia	M	2096694	463455	22.10	1205952	57.52	427287	20.38
5	Oltenia	M	1016755	221674	21.80	583712	57.41	211369	20.79
6	Banat	M	680536	145387	21.36	410483	60.32	124666	18.32
7	Crişana	M	279360	65527	23.46	163337	58.47	50496	18.08
8	Maramureş	M	401008	97450	24.30	236939	59.09	66619	16.61
9	Bucharest	M	871530	157737	18.10	561266	64.40	152527	17.50

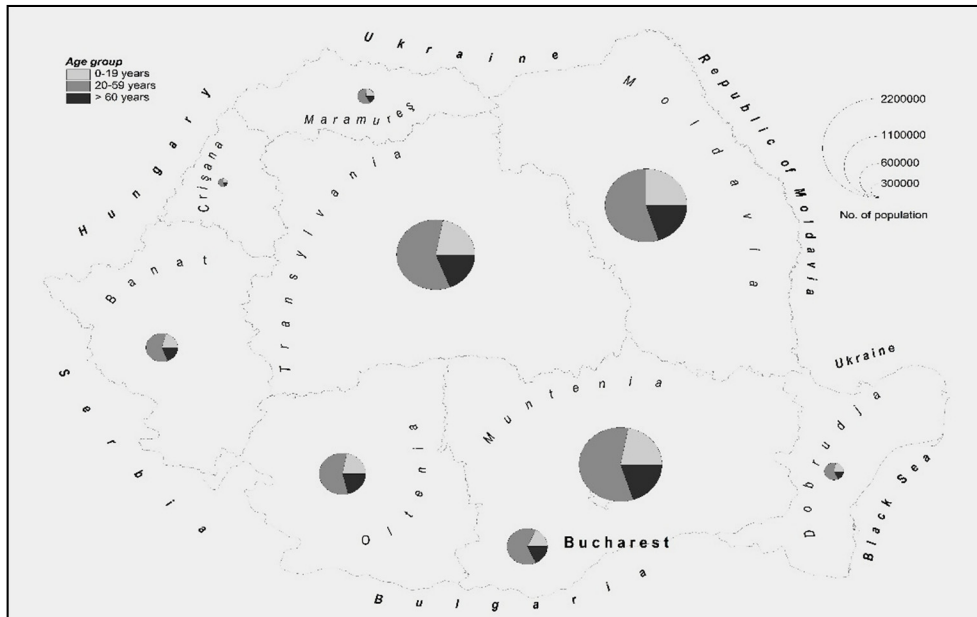*Source: National Institute of Statistics.* M = Male

Fig. 8. The structure of the Romanian male population by age groups at provinces level in 2011.

c) The old male population group (60 years and over), with a share of 19.20% of the total Romanian population at national level, does not differentiate significantly among the provinces. Thus, in the provinces of Transylvania, Moldova and Dobrogea there are about 18-20% old male population, and a share of 20-22% in Muntenia and Oltenia. The highest values of old male population is registered in Oltenia province (20.79), while the lowest (below 18%), is registered in Banat, Crişana, Maramureş and Bucharest (17.50%) (see table 6).

2. 3. 3. The Romanian female population

The Romanian female population registers slightly higher values than the male population at national level (51.37%).

Table 7.

The structure of the Romanian female population by age groups at provinces level in 2011

No.	Province	Gender	Total population	Age groups					
				0-19 years	%	20-59 years	%	60 years and over	%
0	**Romania**	**F**	**10333064**	**2091716**	**20.24**	**5629120**	**54.48**	**2612228**	**25.28**
1	Transylvania	F	2039235	413856	20.29	1124881	55.16	500498	24.54
2	Moldova	F	2117203	496953	23.47	1083941	51.20	536309	25.33
3	Dobrudja	F	457812	92300	20.16	259351	56.65	106161	23.19
4	Muntenia	F	2200771	436099	19.82	1161811	52.79	602861	27.39
5	Oltenia	F	1058887	208423	19.68	560819	52.96	289645	27.35
6	Banat	F	729212	138332	18.97	414159	56.80	176721	24.23
7	Crişana	F	296038	62356	21.06	162741	54.97	70941	23.96
8	Maramureş	F	422011	92229	21.85	233468	55.32	96314	22.82
9	Bucharest	F	1011895	151168	14.94	627949	62.06	232778	23.00

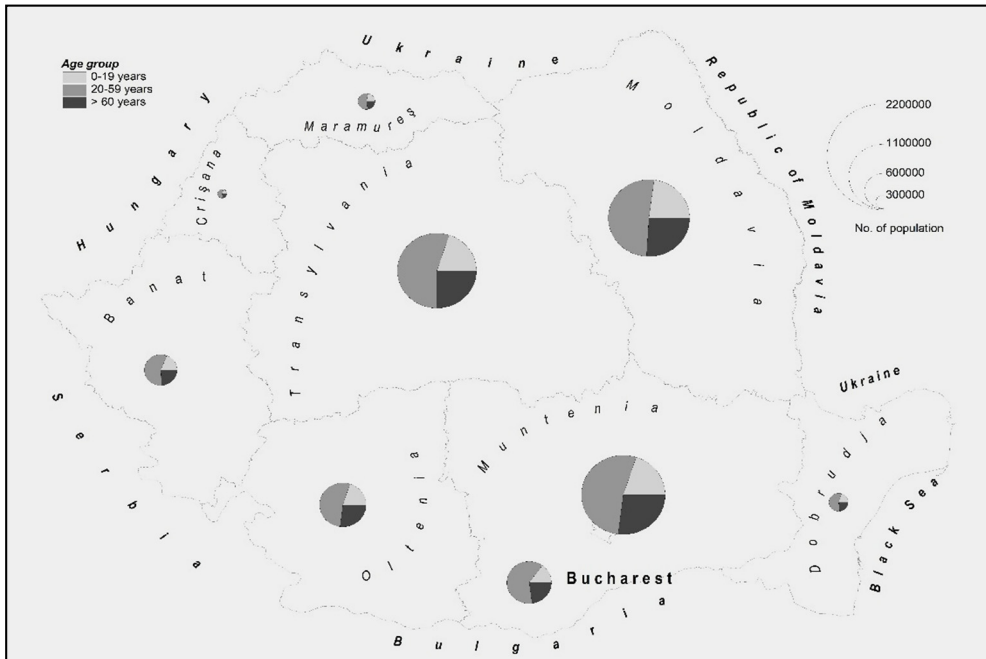*Source: National Institute of Statistics.* F = Female

Fig. 9. The structure of the Romanian female population by age groups at provinces level in 2011.

a) The young female population group (0-19 years) holds a share of 20.24% of the total young female population at national level. In the provinces of Transylvania, Dobrogea, Muntenia and Oltenia the share of young female population is of 19-21%, followed by the provinces of Crişana and Maramureş with shares of 21-23%. The highest number of young female population is registered in the province of Moldavia (23.45%), while the lowest values are registered in the province of Banat (below 19%) and Bucharest (14.94%) (table 7).

b) The adult female population group (20-59 years), holds a share of 54.48% of the total female population at national level. There are also differences in the spatial distribution at provinces level, as follows: the provinces of Transylvania, Crişana and Maramureş have values of 54-56%; the provinces of Moldova, Muntenia and Oltenia register values below 54%; the provinces of Dobrogea and Banat register values of 56-58%. The highest number of adult female population is registered in Bucharest (62.06%).

c) The old female population group (60 years and over) holds about a quarter of the total female population in Romania (25.28%). There are three provinces (Transylvania, Moldova and Banat) with registered values very close to this average share (24-26%), whereas shares below 24% are registered in the provinces of Dobrogea, Crişana, and Maramureş (the lowest share – 22.82%) and Bucharest. The highest number of old female population is registered in the province of Muntenia (27.39%) and Oltenia.

2. 4. The sex ratio

The sex ratio is calculated as the ratio between the number of female persons for 100 male persons at national level. Since our study covers the demographic aspect of gender structure, we considered suitable to show the values of this indicator at county and provinces level. In this case the value of the sex ratio at national level (women for every 100 men) shows the general ratio of 106 women for every 100 men, whereas in case of age groups, the young and adult groups register close values of 95 women for every 100 men and 98 women for every 100 men. In the case of the old group the values are significantly different, of 139 women for every 100 men, showing a decrease in the number of men due to the lower values of life expectancy of male population (~ 70) as compared to the value of life expectancy of female population, of approximately 77.4 (EUROSTAT, 2015).

2. 4. 1. The sex ratio at county level

The average value of the sex ratio at national level is of 106 women for every 100 men. At county level, the lowest values range from 100 women for every 100 men (registered in Vaslui county) up to 108 women for every 100 men (registered in the counties of Arad, Cluj and Timiş).

The detailed data on the sex ratio are presented in table 8 and fig. 10. We split the data into three classes of values, as follows:

- values between *100 and 102* – are registered in only six of the Romanian counties, distributed in the geographical-historical provinces as follows: in Moldavia (Iaşi and Vaslui), in Transylvania (Bistriţa-Năsăud and Harghita), in Oltenia (Gorj) and in Dobrogea (Tulcea);

- values between *102 and 104* are registered in five of the eight counties in the province of Moldavia (Bacău, Botoşani, Galaţi, Neamţ and Suceava), in four of the ten counties of the province of Muntenia (Călăraşi, Dâmboviţa, Ialomiţa and Teleorman), in two of the five counties of the province of Oltenia (Mehedinţi and Olt), in two of the ten counties of the province of Transylvania (Alba and Covasna) and in one of the counties of the province of Maramureş (Maramureş);

- values between *104 and 106* are registered in 17 of the national counties, distributed in the geographical-historical provinces as follows: six counties in the province of Muntenia (Argeş, Brăila, Buzău, Giurgiu, Ilfov and Prahova), five counties in Transylvania (Braşov, Hunedoara, Mureş, Sălaj and Sibiu), two counties in Oltenia (Dolj and Vâlcea) and one county in each of the rest of the provinces: Moldavia (Vrancea), Dobrogea (Constanţa), Banat (Caraş-Severin) and Crişana (Bihor);

- values between 106-108 are registered in only four of the Romanian counties, located in the western part of the country, two of the in the province of Banat (Arad and Timiş) one of them in Transylvania (Cluj) and another one in Maramureş (Satu Mare);

- the values registered in the capital city of Bucharest (116 women for every 100 men) are significantly higher than the national average (table 8).

Table 8.

The sex ratio at county level in 2011

Crt no.		M	F	%	Crt no.		M	F	%
	Romania	9788577	10333064	106		**Romania**	9788577	10333064	106
1	Alba	168451	173925	103	22	Hunedoara	203981	214584	105
2	Arad	207508	223121	108	23	Ialomiţa	134647	139501	104
3	Argeş	298111	314320	105	24	Iaşi	381844	390504	102
4	Bacău	304000	312168	103	25	Ilfov	189590	199148	105
5	Bihor	279360	296038	106	26	Maramureş	234664	243995	104
6	Bistriţa-N.	141613	144612	102	27	Mehedinţi	130333	135057	104
7	Botoşani	203186	209440	103	28	Mureş	268941	281905	105
8	Braşov	267351	281866	105	29	Neamţ	231508	239258	103
9	Brăila	156661	164551	105	30	Olt	214285	222115	104
10	Buzău	219934	231135	105	31	Prahova	369695	393191	106
11	Caraş-Sev.	143852	151727	105	32	Satu Mare	166344	178016	107
12	Călăraşi	150076	156615	104	33	Sălaj	109194	115190	105
13	Cluj	332579	358527	108	34	Sibiu	192714	204608	106
14	Constanţa	333347	350735	105	35	Suceava	312920	321890	103
15	Covasna	103454	106723	103	36	Teleorman	186008	194115	104
16	Dâmboviţa	254397	264348	104	37	Timiş	329176	354364	108
17	Dolj	322485	338059	105	38	Tulcea	106006	107077	101
18	Galaţi	264177	271990	103	39	Vaslui	197704	197795	100
19	Giurgiu	137575	143847	105	40	Vâlcea	180912	190802	105
20	Gorj	168740	172854	102	41	Vrancea	166152	174158	105
21	Harghita	153572	157295	102	42	Bucharest	871530	1011895	116

Source: *National Institute of Statistics.* Bistriţa-N. = Bistriţa-Năsăud, Caraş-Sev. = Caraş-Severin
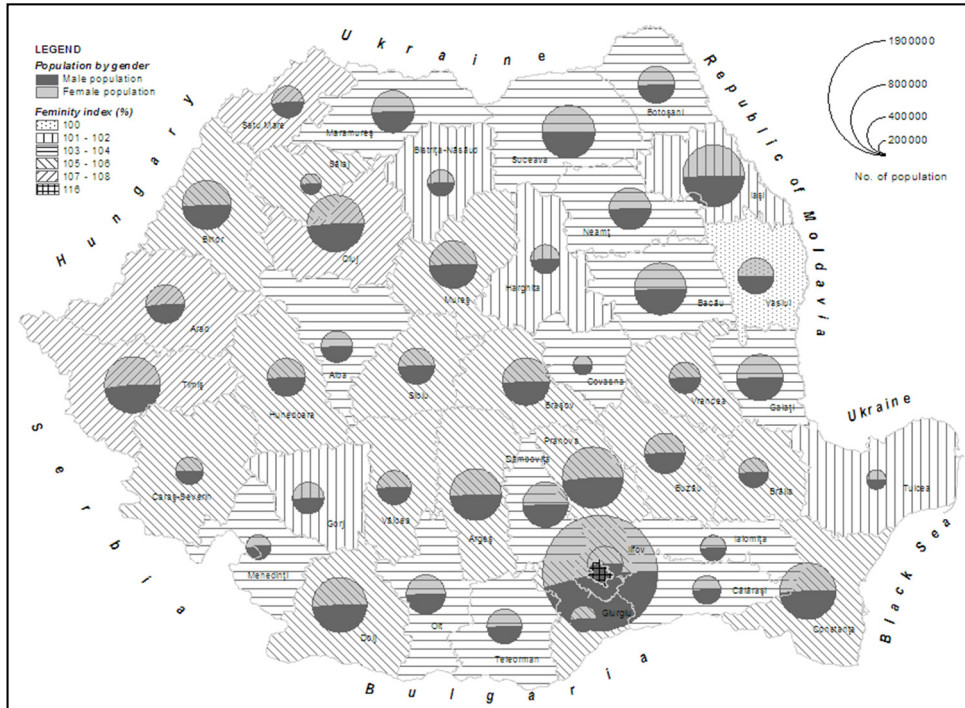
Fig. 10. The sex ratio of the Romanian population at county level in 2011.

The overall high values of sex ratio are firstly determined by the weight of the old female group of population in the overall population number of each administrative unit, which is directly connected to the fact that women tend to have greater life expectancy at the age of 60 (Huenchuan, 2010).

2. 4. 2. The sex ratio of the Romanian population in the geographical-historical provinces in 2011

At a larger scale, the values of the sex ratio are more homogenous and the discrepancies at county level are no longer visible. When analyzing the data registered at the level of geographical-historical provinces, we were able to synthesize the ratio between the female and the male population.

The highest values of the sex ratio (of 107 women for every 100 men) is registered in the province of Banat, the province of Crişana recording values equal to the national average, while the rest of the provinces register values between 103 and 105 women for every 100 men, their values not being much different. However, in the case of Muntenia province, if we take into account the value of sex ratio registered in the capital city the average value increases up to 108 women for every 100 men. Bucharest

Table 9.

The feminity index of the Romanian population at provinces level in 2011

Crt. no.		M	F	%
	Romania	9788577	10333064	106
1	Transylvania	1941850	2039235	105
2	Moldova	2061491	2117203	103
3	Dobrudja	439353	457812	104
4	Muntenia	2096694	2200771	105
5	Oltenia	1016755	1058887	104
6	Banat	680536	729212	107
7	Crişana	279360	296038	106
8	Maramureş	401008	422011	105
9	Bucharest	871530	1011895	116

Source: *National Institute of Statistics.*

capital city registers the highest value of sex ratio in the country (116 women for every 100 men). Thus, we have only two classes of values of the sex ratio in which we can integrate the Romanian geographical-historical provinces, as follows: values between 103 and 104 women for every 100 men – which are the lowest values at provinces level – are recorded in Moldavia, Dobrogea and Oltenia; and the value of 105 women for every 100 men, which is recorded in three historical provinces: Maramureş, Transylvania and Muntenia (see table 9 and fig. 11).
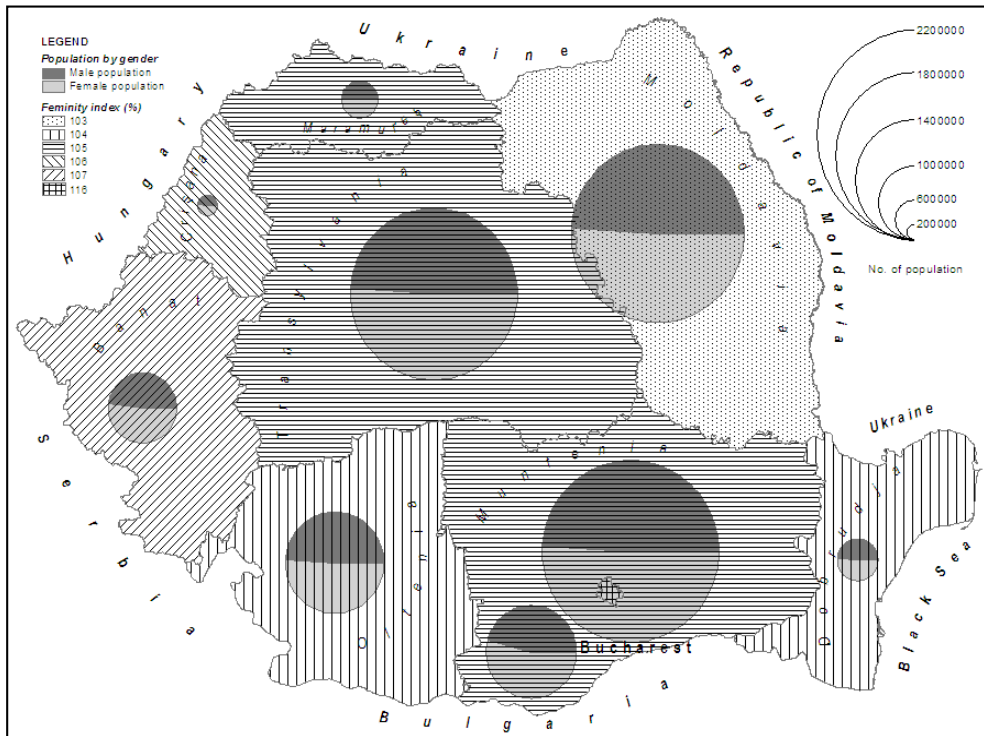

Fig. 11. The sex ratio of the Romanian population at provinces level in 2011.

3. CONCLUSION

The geodemographic issue analyzed in our study was the structure of the Romanian population by gender and age groups as registered at the census in 2011 (data provided by the National Institute of Statistics). The numerical evolution was graphically displayed through maps and graphs at two different scales: county level and provinces level. The topic of population evolution and structure has previously been debated by the authors and the results (ethnic and religious structure at national level) can be easily correlated with the present ones. As compared to the values registered in 1992, the Romanian population in 2011 registered a decrease of 11.79%, relatively balanced in terms of gender structure, the male population holding a share of 48.65% and the female population, a share of 51.35%. The age structure also reveals a relative balance between active adult population (56.32%) and the young and old population, together holding a share of 43.68%. In 2011, the age dependency ratio between the people younger than 15 or older than 64 to the working age population (15-64 years) was of 43% and increasing (The World Bank, 2015). Spatially, the structure of the Romanian population by gender and age structure, show differences at county level and also at a larger scale.

The results show that the young group holds an average share of 21.36% of the total national population, with the highest values in Vaslui county (26.17%) and the lowest in Bucharest (16.40%). The adult group registers the highest values in Bucharest (63.14) and Teleorman county (49.69%), while the old group of population holds the highest shares in the counties of Teleorman (31.01%) and Ilfov (18.20%).

The lowest share of young male (18.00%) and female (14.94%) population and the largest share of adult male (64.40%) and female (62.06%) population are registered in Bucharest. The spatial distribution of population reveals some highs and lows among which are worth mentioning the following: Vaslui county holds the highest values of young female population (25.49%) while the highest share of young male population (22.54%) is registered in Suceava county; Ilfov county holds the lowest shares of old male (15.46%) and female (20.80%) population; Teleorman county stands out through the highest values of old male (26.70) and female (35.14%) population and the lowest values of adult male (53.76%) and female (46.75%) population.

At a larger scale, the situation of the Romanian population by gender and age structure reveals particularities in each of the geographical-historical provinces. Thus, the province of Moldavia stands out through the highest values of the young population (both male and female) and the lowest shares of adult population (both male and female). The province of Maramureş registers the lowest values of the old (male and female) population (19.80%) while the highest share of old male population (20.79%) is registered in the province of Oltenia and the highest share of old female population is held by the province of Muntenia (27.39%).

The sex ratio calculated at county and provinces level shows parity in Vaslui County but reaches values up to 108 women for every 100 men in the counties of Cluj,

Arad and Timiş. Bucharest municipality show a particularly different situation registering the highest values in the country (116 women for every 100 men). Overall, the average value of the sex ratio in 2011, at county level, is of 106 women for every 100 men, and at the level of geographical-historical provinces the values range from 103 in Moldavia province to 107 in Banat province.

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