

# A Quantitative Assessment of the Social Marginalization in Romania

Andra Costache, Rădița Alexe

**Abstract**—The analysis of the spatial disparities of social marginalization is a requirement in the present-day socio-economic and political context of Romania, an East-European state, member of the European Union since 2007, at present faced with the imperatives of the growth of its territorial cohesion. The main objective of this article is to develop a methodology for the assessment of social marginalization, in order to understand the intensity of the marginalization phenomenon at different spatial scales. The article proposes a social marginalization index (SMI), calculated through the integration of ten indicators relevant for the two components of social marginalization: the material component and the symbolical component. The results highlighted a strong connection between the total degree of social marginalization and the dependence on social benefits, unemployment rate, non-inclusion in the compulsory education, criminality rate, and the type of pension insurance.

**Keywords**—Romania, social marginalization index, territorial disparities.

## I. INTRODUCTION

THE concept of marginalization is used in different fields (social, cultural, educational, political and economic), in order to define the exclusion of some disadvantaged groups whose access to different types of resources is severely limited [12], [16], [5], [13].

The marginalization process is the result of a complex mechanism, comprising both societal actions and actions of the marginal individuals or groups. Marginalization is described as a consequence of otherness [10], respectively of the differences imposed by the distinct cultural identity of certain groups [9], by certain psychological and physical particularities (people with disabilities) or behavioral peculiarities (criminals, people with a deviant behavior).

The mechanisms of marginalization belong to a vicious circle, responsible for maintaining and even accentuating the social isolation, the inadaptation and the integration difficulties that characterize the relations of the marginalized groups with society (Fig. 1). Through specific social-control processes, the society tries to eliminate the malfunctioning produced by the presence of individuals or groups with features different from those of the majority. The society's initial intervention is characterized by a symbolical sanction of otherness [10], by tagging the individuals that are different and nourishing pre-conceptions regarding their potential skills

and actions. The stigmatization and the discrimination of the individuals who are different leads to a limitation of their access to resources and services (e.g.: adequate education, jobs that can assure a superior social and financial status, high-quality health services).

In their turn, the individuals from the marginalized groups develop a negative answer to these societal reactions, tending to reject the values and the norms accepted by the majority. At the same time, modifications occur as well in the way the individuals see themselves, as they perceive themselves as situated at the periphery of the society and they marginalize themselves, which creates premises for deviant behaviors and new malfunctions in the social system.

The definitions of the marginal groups focus on the negative connotations or even the discriminating actions related to certain visible characteristics (e.g.: skin color, physical disabilities) or invisible features of the group members, such as belonging to certain ethnic or cultural groups and deviant criminal behaviors [15]. Marginal groups can be social groups that have the conscience of a cultural identity (e.g.: Gypsies) or formal groups, whose members do not have mutual social relations.

Beside the stigmatization and the exclusion of the marginal groups, there is also the society's tendency to transfer responsibility for certain social problems towards the marginal groups, which are blamed and turned into "scapegoats", for a series of deviant phenomena (e.g.: the Roma ethnics from Romania are perceived by the majority population as a group with a high criminality level).

Wiehn identifies [15] the following categories of marginal groups: ethnic, cultural, economic, political, juridical and criminal, sanitary and religious marginal groups. At the same time, marginal groups can be differentiated as well according to:

- 1) The socio-spatial environment in which they live, i.e. in the urban or rural area, visible or hidden, in ghettos or in the vicinity of the dominant group [14].
- 2) The way they appear in a society (e.g.: through a constraint exerted by a dominant group on a minority group or peacefully, for instance through migration).
- 3) The reaction to the attitude of the majority population (acceptance or non-acceptance).

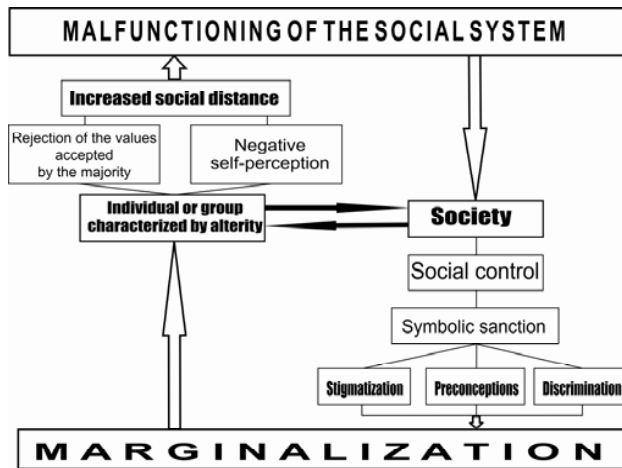


Fig. 1 Conceptual model of the relationship between social marginalization and the malfunctioning of the social system

In recent approaches, numerous criteria and indicators have been proposed for marginalization assessment, such as: social exclusion; access to different infrastructure elements (e.g.: access to the water supply system, distance to transport and communication facilities); access to education (e.g.: share of the literate population in the total population); access to health care services (e.g.: life expectancy, infant mortality); access to political decisions (e.g.: the ratio of the population taking part in the electoral process); access to economic resources (e.g.: unemployment, GDP/inhabitant); and access to natural resources [4]. Among the analyses conducted at national level, there is noteworthy the development of the Canadian Marginalization Index [6], which aims to integrate a complete set of data, concerning: residential instability (e.g.: number of people/household, ratio of residences not held by their inhabitants); material deprivation (e.g.: share of mono-parental families, ratio of the population over 20 without a high-school diploma); economic dependence (e.g.: ratio of the elderly population); and the ethnic dimension of marginalization (e.g.: ratio of the population identifying itself as belonging to the visible minorities).

## II. OBJECTIVES AND METHODOLOGY

After two decennia of socio-economic and political transition, the accession of Romania in the European Union (EU) in 2007 seemed to assure the financial support required to reduce the country's social disparities. At the same time, the entry in the European Union also imposed the restructuring of the governmental institutions, correlated with changes on the level of civil society, creating a favorable framework for the increase of the social participation of traditionally disadvantaged groups, for example Roma ethnic population or people with disabilities. However, the economic crisis and the internal political instability put in danger the fragile progresses recorded in the alleviation of social exclusion and marginalization. For this reason, the present

study is a necessary approach meant to help understand the present-day socioeconomic context in Romania.

The main objective of the research is to develop a methodology for the assessment of social marginalization, aimed to highlight the spatial disparities of this phenomenon in Romania. At the same time, the research was focused on the identification of the counties and regions towards which the efforts of the authorities should be directed in order to reduce social inequalities.

The concept of marginalization has a material component, which concerns the isolation associated to difficulties of access to certain infrastructure elements or to certain services. This component is easier to assess, through indicators that quantify the number of marginalized groups and their size. Yet, one should not neglect the symbolical dimension of marginalization, namely the stigmatization that the marginalized people have to face and the preconceptions formed in the collective mentality in relation to these people. The evaluation of the symbolical component of marginalization represents a complex approach, which supposes the understanding of the perceptions concerning marginalization (including self-perceptions).

In the present approach, a social marginalization index (SMI) was developed through the integration of indicators of the two major components of marginalization, the material component and the symbolical one (Table I). There were selected seven indicators related to the marginalization induced mainly by material deprivation and by a deficient access to public services and to employment (unemployment, existence of a disability, dependence on the special child protection system, type of pension insurance, dependence on social benefits, non-inclusion in the compulsory education and non-enrollment with a family doctor). Three more indicators have been used to reflect the symbolical dimension of marginalization (criminality, Roma population and registered patients with HIV/AIDS). These indicators reflect the dimension of certain social groups facing first of all with the preconceptions and for whom the stigmatization also triggers material deprivations.

The analysis was carried out on two spatial scales:

- 1) On the level of the counties, territorial-statistic units of the 3<sup>rd</sup> order (NUTS 3), according to the European nomenclature, as they are older and more stable structures than the superior territorial-statistic units (development regions – NUTS 2), at the same time permitting a more detailed analysis than the latter.
- 2) On the level of the development regions, as the non-reimbursable EU funds are allotted on their level. A supplementary reason is the current project for territorial reorganization of Romania, which needs to be completed until the end of the year 2013, in order to extend the decisional attributions of the regional leadership structures and to increase the EU funds absorption.

TABLE I  
INDICATORS USED TO CALCULATE THE SOCIAL MARGINALIZATION INDEX

Main cause of marginalization	Name of indicator	Marginalization component mainly highlighted by the indicator	Calculation method	Source / Database	Year
Access to a job	Unemployment	Material marginalization	Ratio of the unemployed in the total active population	Romanian National Agency for Employment	2011
Deviant behavior	Criminality	Symbolical marginalization	Number of people definitively condemned per 100000 inhabitants	Romanian National Statistics Institute, TEMPO - online database	2010
Health condition	People with disabilities	Material marginalization	Share of the people with disabilities in the total population, computed data	Romanian Ministry of Work, Family and Social Protection, General Direction for the Protection of People with Handicap	2011
Health condition	Registered patients with HIV/AIDS	Symbolical marginalization	Ratio of the patients with HIV/AIDS per 100000 inhabitants, computed data	Romanian National Institute of Infectious Diseases Prof. Dr. Matei Balș, Department for Monitoring and Evaluating HIV/AIDS in Romania	2011
Family situation	Children benefiting of the special protection system	Material marginalization	Ratio of the children benefiting of the special protection system in the population aged 0-18, computed data	Romanian Ministry of Work, Family and Social Protection, General Direction for Child Protection	2011
Ethnic origin	Roma population	Symbolical marginalization	Ratio of the Roma population in the total population, computed data	2011 Census, provisional data	2011
Access to financial resources, age, economic dependence	Pensioners from agriculture	Material marginalization	Ratio in the total number of pensioners, computed data	Romanian National Statistics Institute, TEMPO - online database	2011
Access to financial resources	People receiving social benefits	Material marginalization	Ratio of the people receiving social benefits in the total population, computed data	Romanian Ministry of Work, Family and Social Protection, Direction for Social Services and Social Inclusion	2011
Access to education	Non-inclusion in the compulsory education	Material marginalization	Ratio of the children aged between 7 and 16 not participating to the compulsory education, computed data	Romanian Ministry of Work, Family and Social Protection, Direction for Social Services and Social Inclusion	2010
Access to health services	People not enrolled with a family doctor	Material marginalization	Ratio of the people not enrolled with a family doctor in the total stable population, computed data	Romanian Ministry of Work, Family and Social Protection, Direction for Social Services and Social Inclusion	2010

### III. SPATIAL REPARTITION OF THE MARGINALIZED SOCIAL GROUPS IN ROMANIA

The individual analysis of each indicator highlights certain concentration patterns for the marginalized population. In the case of the indicator *unemployment*, very high values (over 7.96 percent) characterize 12 percent of the counties, located in the south and center-east Romania. The range of variation is significant, from a share of the unemployed people of 10 percent in Vaslui, one of the poor counties of Moldova, to 1.98 percent, in Bucharest, the capital of Romania. The counties with low and very low values of this indicator (under 5.16 percent, whereas the national average is of 5.99 percent) are concentrated in the north, north-west and west of Romania. On the level of the development regions, the largest values of this indicator are recorded in the regions South-West and South.

Among the counties with significant unemployment rates (over 7 percent), we find the counties with low GDP values (under 5 billion lei, e.g.: Vaslui, Mehedinți, Ialomița and Covasna). At the same time, in this category we find counties affected by the restructuring of the primary sector (extractive industry – e.g.: Gorj and Alba). Still, some of the counties affected by economic restructuring and massive layoffs at the

end of the 1990s (e.g.: Hunedoara) are not among the administrative-territorial units with high and very high unemployment rates today. This fact can be explained not through the revitalization of the local economy, but through the increase of the long-term unemployment and the non-inclusion in statistics of the people with an unemployment duration lasting over 18 months.

Other factors that can influence the high values of the unemployment rate on a local level are: a. the concentration of the Roma population, traditionally less educated and not inserted on the labor market (e.g.: Alba, Buzău – with ratios of the Roma population over 4 percent); and b. the reduced access to education (e.g.: Bacău, Galați, Teleorman, counties with high rates of non-inclusion in the compulsory education of the population aged between 7 and 16).

The share of the rural population corresponds only in a few cases with high unemployment rates (ex: Teleorman, 66.27 percent rural population and 9.19 percent unemployment rate; Buzău, 58.9 percent rural population and 8.66 percent unemployment rate; Vaslui, 58.58 percent rural population, and 10.15 percent unemployment rate). This situation does not reflect a high degree of insertion of the rural population on the

labor market but rather the prevalent orientation of the population towards subsistence farming.

In the case of the indicator *Criminality*, calculated as the number of people definitively condemned per 100000 inhabitants, the values vary between 103 condemnations /100000 inhabitants in the vicinity of the capital (Ilfov) and 289 condemnations/100000 inhabitants in Hunedoara County, with a national average of 200.3 condemnations/100000 inhabitants.

There are three areas with high and very high values of this indicator, namely: the northwestern area (the counties of Maramureș, Satu-Mare and Sălaj); the eastern area, which includes the south of Moldova (Vaslui, Bacău, Vrancea, Galați) and then continues with two counties adjacent to the Danube River (Brăila, Tulcea); the central-western area (Alba, Hunedoara, Gorj and Mehedinți County).

The high criminality level is the result of a set of factors, slightly different for each area. Thus, in the counties of the northwestern area, the high level of criminality correlates with the presence of the Roma population (Satu-Mare, with a criminality rate of 239 condemnations/100000 inhabitants and a share of the Roma population of 5.32 percent; Sălaj, with a criminality rate of 229 condemnations /100000 inhabitants and a share of the Roma population of 6.95 percent), and with a low access to education (the non-inclusion in the compulsory education of the people aged between 7-16 goes over 17 percent in Satu-Mare and Maramureș). Secondly, the high values of the criminality rate could also be triggered, in Sălaj, by the percentage of the rural population, which is higher than the average (58.69 percent) and by the low GDP (4.3 billion lei).

In the eastern area, the criminality rate ranges between 234 and 285 condemnations/100000 inhabitants and is determined first of all by the low access to education (the non-inclusion in the compulsory education is of 16.7-22.9 percent in the counties of Vrancea, Bacău, Tulcea, Galați and Brăila), correlated with low GDP values (especially in Tulcea, Vaslui and Vrancea) and, locally, with high shares of rural population (Vrancea – 62 percent, Vaslui) and of the unemployed population (Galați – criminality rate 285 condemnations/100000 inhabitants and unemployment rate 7.59 percent; Bacău).

The central-western area consists of counties that have been faced with the effects of the massive layoffs from the extractive industry, which occurred at the end of the 1990s, so the criminality rates can be correlated first of all with the unemployment rate (in the counties of Mehedinți – unemployment rate 9.17 percent and criminality rate 277 condemnations/100000 inhabitants, Alba and Gorj) and, secondarily, to certain concentrations of the Roma population (Alba) and with a low GDP value (Mehedinți). It is noteworthy the case of the Hunedoara County, where the criminality rate reaches the maximum national value (289 condemnations/100000 inhabitants). This value can be explained through the presence of the mining region of Valea Jiului ("the Jiu Valley"), well-known for the dramatic effects

of the economic restructuring (e.g.: sharp increase of criminality and accentuation of severe poverty).

The indicator *People with disabilities* presents values ranging between 1.96 and 6.15 percent, with a national average of 3.3 percent. As the presence of high number of people with disabilities has various reasons, and can be associated both with environmental factors and with social, economic or educational factors, in the present study we will content ourselves with the observation that a part of the counties with high and very high values of the indicator *People with disabilities* are characterized by a precarious access to primary health assistance (e.g.: Vrancea, with 5.55 percent ratio of the disabled people and 27.13 percent ratio of the people not enrolled with a family doctor; Vâlcea, with 5.06 percent ratio of the disabled people and a share of 20.29 percent of the people not enrolled with a family doctor; Mehedinți; Bistrița-Năsăud). A significant share of the disabled people is encountered in some counties with high concentration of the Roma population (e.g.: Alba, Sibiu, Bistrița-Năsăud, Sălaj) and with low access to education (e.g.: Sibiu, with 4.55 percent ratio of the disabled people and 17.4 percent rate of non-inclusion in the compulsory education; Bistrița-Năsăud, with a 4.04 percent ratio of the of the disabled people and a 16.4 percent rate of non-inclusion in the compulsory education).

Another indicator of the health condition, yet with a different significance, is the incidence of HIV/AIDS, namely *the number of the registered patients with HIV/AIDS per 100000 inhabitants*. Among the counties with high values of this indicator stands:

- 1) Counties where the infection of the population can be associated rather with the exposure caused by deviant behavior (drug consumption, prostitution). This category includes developed counties with highly emancipated population: Bucharest, with maximum values of both the GDP (111 billion lei), and of the number of patients with HIV/AIDS (172.19/100000 inhabitants); Constanța (19 billion lei GDP, 125.85 patients with HIV/AIDS/100000 inhabitants).
- 2) Counties where the HIV/AIDS incidence is associated especially with the low educational level of the population (e.g.: Neamț, Bacău, Galați, Botoșani) and with the predominance of the rural population (e.g.: Giurgiu – 106.13 patients with HIV/AIDS per 100000 inhabitants and 68.86 percent ratio of the rural population; Neamț; Olt).

Other factors that have influenced the values of this indicator are: the geographic position and the specific associated activities (e.g.: tourist and harbor activities of Constanța County, harbor activities of Galați and Giurgiu County), and failures of the medical system. Thus, among the children infected with HIV/AIDS during the interval 1989-2011, the main probable ways of transmission were blood transfusions and the hospital-acquired contamination (repeated hospitalizations and parenteral treatments carried out at the end of the 1980s and the beginning of the 1990s).

There were recorded 6800 such cases, whereas the total number of the HIV/AIDS patients in Romania is of about 17000 [8].

The indicator *Children benefiting of the special protection system* was calculated as the share of this group in the total population aged between 0 and 18. Yet, the material marginalization of the people in this group is felt especially after they leave the special protection system, at the age of 18, following the lack of social and family support networks. The material marginalization is also generated by the lack of official policies meant to facilitate the economic and social integration of the young people coming from the special protection system. There is also a symbolical component associated to the marginalization of this group, related to their negative self-perception and poor self-esteem, which can generate deviant behaviors and criminality.

In Romania, the problems related to maternal abandonment were exacerbated by the demographic policy of the communist regime. The fact that abortions and contraception were forbidden beginning with 1967 led to the increase of the number of unwanted pregnancies and, later on, on the background of the increasing economic difficulties that the population had to bear, the number of the abandoned children left in the care of the state increased. After the fall of the communist regime, in December 1989, the maternal abandonment has remained a significant social issue in Romania, because of the economic difficulties and the poor access to sexual education, especially in the rural areas.

Although the number of the institutionalized children decreased spectacularly, by 60 percent, during the interval 2000-2011, the problem is far from being solved, as this decline is associated to the transfer of the children towards other forms of protection (e.g.: foster care and reintegration in the children's extended family). The total number of children from the special protection system decreased with only 25 percent in the above-mentioned interval [2].

On a national level, the counties with high and very high values of this indicator have a share of 45 percent in the total number of counties. These counties belong to different cultural areas and it is quite difficult to find their common features. A part of them are situated in the bottom third of the counties' hierarchy according to their GDP, have significant ratios of Roma population, low access to education or to primary health assistance, and high unemployment rates.

The indicator *Roma population* concerns an ethnic group faced with a discriminatory attitude with deep historical roots, dating back from the slavery of the Roma population on the Romanian territory, between the 14<sup>th</sup> and the 19<sup>th</sup> century. Although the majority of the Roma population is affected by material marginalization as well, we consider that symbolical marginalization is particularly significant for this ethnic group. The Roma Inclusion Barometer [1] indicates a decrease of the intolerance towards the Roma during the last two decennia, e.g. the share of the people who do not wish to have Roma neighbors went down from 72 percent from the total population in 1993 to 37 percent in 2006. However, this

ethnic group is the most discriminated, compared to all the other ethnic groups of Romania.

Based on the ethnic self-identification from the 2011 census, the Roma population represents 3.25 percent of the Romanian population (619,007 people), being the second ethnic group in point of size after the Hungarian one (6.49 percent). The official data are influenced by the reticence of the Roma population when it comes to declaring their ethnic origin. The unofficial estimates indicate a much higher number of Roma on the Romanian territory, varying between 730,000-970,000 [11] and 1.5-2 million people [3], [17]. Both on the level of the hetero-perception and of the self-perception, the results concerning the ratio of the Roma population in the total population are different by far. Both the Roma population and the people of other nationalities from the national sample indicated in 2007 an average ratio of 24-25 percent for the Roma population in the total Romanian population [1].

Compared to the majority population, but also to the other ethnic groups, the Roma have the lowest employment rate (under 20 percent, in 2002) and the lowest level of education. Thus, according to the census of 2002, among the Roma population there were 256 illiterate people/1000 people aged 10-and-older (compared to 21 among the majority population) and just 296 people with higher and secondary education/1000 people aged 10-and-older (compared to a rate of 744 for the majority population).

Formal exclusion (lack of civil status data, identity data or residential data) and residential segregation are two more problems that the Roma ethnic population has to face. The Roma Inclusion Barometer has highlighted that the Roma individuals live more often in peripheral areas (68 percent, compared to 46 percent of the members of other ethnic groups) and in rural settlements, which makes their access to education and health services significantly lower. Moreover, the Roma residences are built-up of low quality materials, have no access to basic facilities to an overwhelming extent and are overcrowded (the number of people per room is double in their case compared to the one in the case of other ethnic groups).

On a national level, there are two main areas concentrating the Roma population: the central-eastern part of Muntenia (Călărași – with a share of Roma in the total population of 8.06 percent, Ialomița, Buzău, Dâmbovița, Giurgiu) and the central-western area (Mureș – 8.78 percent, Bistrița-Năsăud, Sibiu, Alba, Sălaj, Bihor, Satu-Mare).

The indicator *Pensioners from agriculture* refers to a group that could potentially be affected by material marginalization, considering the low level of the pensions in this sector, correlated with the advanced age and the probability of economic dependence. In the case of this indicator, the actual situation can be different, because the inhabitants of the rural areas have, at least theoretically, more extended support networks and supplementary revenues assured by subsistence farming. However, given the economic crisis and the out-migration of the young labor force, the group we had in view

is a vulnerable one; it is for this reason that we opted for its inclusion in the present analysis.

On a national level, the share of the pensioners in agriculture in the total number of the pensioners is of 13 percent, with maximum values of over 20-30 percent in counties situated mainly in the southern and the eastern sides of the country, with extended and fertile lowlands (e.g.: Botoșani, Teleorman, Olt, Ialomița, Brăila, Galați). The high ratio of the rural population is also correlated with high and very high values of this indicator, even in the counties situated at the contact of the lowlands with the Subcarpathians and mountain regions (e.g.: Dâmbovița, Vrancea, Buzău, Sălaj)

The indicator *People receiving social benefits* reflects the ratio (in the total population) of the people with low revenues or no revenues at all, who meet the criteria to receive financial help from the state, during the periods when they cannot assure their minimal living conditions by themselves. During the last decennium, the average monthly number of paid social benefits has recorded a constant decrease. Still, following some legislative changes triggered by the economic crisis, the ratio between the number of benefits actually paid and the number of application for payment has increased [7]. However, the amounts allotted through this social benefit are under the threshold of food poverty (e.g.: for the year 2010, the threshold of food poverty was of 159.3 lei, compared to 125 lei, the level of the minimum revenue guaranteed for a single person), which creates the premises for the appearance of an extremely vulnerable social group, marginalized through the lack of the financial resources required to cover their basic needs.

In 2011, 455,846 people benefited of this form of social protection, almost half of them (49.2 percent) coming from families with over 4 members. More than 70 percent of the people receiving social benefits live in the rural areas, and 44 percent of them were over the age of 46. Women held a significant percentage among the legal representatives of the people receiving social benefits (47-48 percent), being single persons or head of a single-parent family.

On a national level, the share of the people receiving social benefits in the total population was of 2.36 percent in 2011, the highest values being specific for the counties with high unemployment rates, to which can also be added, in certain cases, counties with low GDP values or a high ratio of the rural population (e.g.: Vaslui, Teleorman, Sălaj, Covasna, Mehedinți).

The indicator *Non-inclusion in the compulsory education* reflects the existence of the premises of material marginalization, given that a limited access to education is associated, in the long run, with a lack of professional qualification, unemployment and economic dependence. There are three main areas with high and very high rates of non-inclusion in the compulsory education: the central-northern part of Romania (the counties Bistrița-Năsăud, Mureș, Sibiu, Brașov, Maramureș, Satu-Mare), the central-western part of Muntenia (Dâmbovița, Teleorman, Ilfov), and the eastern part of Romania (most of Moldova and the north

of Dobrogea). On national scale, the factors related to accessibility (public roads density) and to the presence of qualified teaching staff (number of pupils /teacher) have just a partial influence on the inclusion in the compulsory education. There are also other causes determining the high and very high values of this indicator, differentiated on the level of the above-mentioned areas.

In the eastern area, the difficulties related to accessibility influence the inclusion in the compulsory education, especially the counties of Brăila and Tulcea (in the latter, the density of the public roads is of just 15.7km/100km<sup>2</sup>, because of the presence of the Danube Delta, and the rate of the non-inclusion in the compulsory education is of 20.8 percent). In the case of the other counties from this area, the non-inclusion in the compulsory education is rather correlated to the high ratio of the rural population (e.g.: Vrancea, Neamț, Botoșani) and to the low level of the revenues. The latter is shown by the low GDP values (in Vrancea and Botoșani) or by the high unemployment rates, which can limit the access to education of the children with unemployed parents (e.g.: Galați, Bacău).

The deficiencies related to the inexistence of a qualified teaching staff could also have an influence on the rate of the non-inclusion in the compulsory education from certain counties (e.g.: Neamț, Vrancea, Bacău, Galați, counties with over 15 pupils/teacher, compared to the national average of 14.3 pupils/teacher).

In the central-western part of Muntenia, the counties with high and very high rates of non-inclusion in the compulsory education have one common feature, i.e. the high share of the rural population. Other factors that could explain the non-inclusion in the compulsory education are the low accessibility (in Teleorman, where the density of the public roads is of 26.3km/km<sup>2</sup>, compared to the national average of 35.2km/km<sup>2</sup>), the lack of qualified teaching staff (in Ilfov, where there are 17.95 pupils per teacher, compared to the national average of 14.3) or through the polarization of the school population by the neighboring schools or high schools (in Ilfov, situated near the capital). At the same time, another factor that should not be neglected is the presence of some important concentrations of the Roma population, traditionally with high unenrollment ratio (e.g. in Dâmbovița and Ilfov).

In the central-northern part of Romania, the high rates of the non-inclusion in the compulsory education are mainly correlated with: a. difficulties of access in the counties with significant areas occupied by the mountain landscape and so with low densities of the public road network (Bistrița-Năsăud, Maramureș, Sibiu, Brașov); b. the high ratio of Roma population (Mureș, Satu-Mare, Sibiu, Bistrița-Năsăud).

The indicator *People not enrolled with a family doctor* is significant for the assessment of the material marginalization for two reasons: a. it reflects a self-exclusion phenomenon determined by the low level of the revenues, which leads to the impossibility to pay for a health insurance; b. it reflects the lack of access to primary health assistance, which, theoretically, has a direct negative impact on the health status

and, indirectly, on the possibility to carry out revenue-earning activities.

High and very high values of this indicator characterize 40 percent of the counties, of which almost half are concentrated in Moldova. Most of the counties with a high and very high rate of the people not enrolled with a family doctor are counties with high values of the rural population, with a GDP under the national average and faced with a lack of health personnel (e.g.: less than 1.5 doctors/1000 inhabitants in Călărași, Ialomița, Giurgiu, Botoșani, Bacău, Neamț, Vrancea, Suceava, Bistrița-Năsăud). Other factors, such as the difficulties of access (e.g.: Brașov, Brăila) and the high ratio of the Roma population (e.g.: Mehedinți, Ilfov, Giurgiu, Călărași, Ialomița) can be added in some situations to the above-mentioned causes. The apparent contradiction between the high number of doctors/1000 inhabitants in some counties (Cluj, Iași) and the high ratio of the people not enrolled with a family doctor can be explained by the presence of important university centers and of some prestigious health units in the cities that are administrative centers of these counties.

#### IV. CALCULATION OF THE SOCIAL MARGINALIZATION INDEX AND VALIDATION OF THE RESULTS

In order to compute the Social Marginalization Index, the values of each indicator were reclassified into five classes, using Natural Breaks. The Social Marginalization Index (SMI) was calculated as a simple arithmetic average of the values resulted after the reclassification. In the final stage, the studied counties were grouped into five classes (Fig. 2), according to the amplitude of the social marginalization phenomenon, namely according to the Social Marginalization Index. Counties with high and very high values of the SMI own a share of 38 percent in the total number of the counties. On a regional scale, the maximum values of the SMI are specific for the North-East (3.13.) and South-East (3.12) regions.

In order to identify the most important causes of social marginalization, statistical correlations were established between the final values calculated for SMI and the values of each indicator. Given the fact that the data were numeric variables and the correlations between distributions do not have a linear tendency, the Spearman's rank correlation coefficient has been used. In order to realize the correlations, the values of each variable (of each indicator) were turned into ranks. Later on, the counties' classification according to the SMI was compared with the counties' classification according to each analyzed indicator, applying the Spearman's formula:

$$\rho = 1 - \frac{6 \sum d^2}{n(n^2 - 1)} \quad (1)$$

where  $\rho$  is the Spearman correlation coefficient,  $d$  is the difference between ranks for each county,  $n$  is the number of counties.

The most important correlations have been highlighted between the level of social marginalization and dependence on

social benefits ( $\rho = 0.724$ ), unemployment rate ( $\rho = 0.636$ ), non-inclusion in the compulsory education ( $\rho = 0.539$ ), criminality rate ( $\rho = 0.529$ ), and type of pension insurance (0.493). For these indicators the values of  $\rho$  were above the critical threshold for a degree of freedom of 40 and a risk of 5 percent (0.3135), which indicates a statistically significant positive correlation (the more the values of the aforementioned indicators grow, the more the intensity of the social marginalization phenomenon increases).

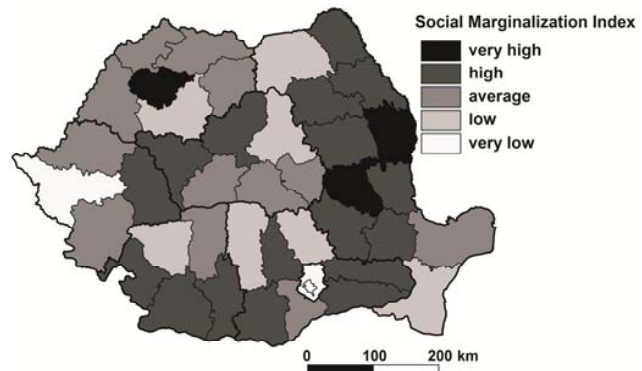


Fig. 2 Social Marginalization Index in Romania

Thus, on a national scale, the material components of marginalization (respectively those related to the access to financial resources, education and employment) prevail in the generating the total degree of social marginalization. It is only the deviant behavior (criminality) that can represent a sufficiently strong symbolical component so as to get significantly correlated to the total marginalization degree.

In order to validate the proposed SMI, its final values have been correlated to two indicators not involved in the analysis but which we consider significant in the context of social marginalization. Starting from the reasoning according to which marginalization depends on the population's mentality but also on the general level of a region's welfare, we have calculated the Spearman correlation coefficient between SMI and the share of the rural population on counties' level, on the one hand, and between SMI and the value of the GDP. In both cases, we obtained statistically significant values of the correlation coefficient, for a degree of freedom of 40 and a risk of 5 percent.

A positive correlation has been highlighted ( $\rho = 0.367$ ) between the level of social marginalization and the rural prevalence in a county, which validates the method used, as the tendency of marginalizing the groups that are different is higher in the more conservative, traditionalist communities from the rural area.

On the other hand, a significant negative correlation ( $\rho = -0.459$ ) has been highlighted between the GDP value and the social marginalization index, which also validates the method applied, as a high welfare degree triggers the increase of the access to education and information, and consequently the increase of the degree of tolerance to alterity (otherness).

## V. CONCLUSIONS

The method described allows the identification of the areas with the greatest concentration of the marginalized groups, and has the potential to guide the decision-makers in granting territorial development funds and implementing measures for alleviating social disparities. However, the assessment carried out on a regional scale leads to a relative uniformity of the results, which triggers the risk of minimizing the critical situation from some counties situated in regions with low SMI values (e.g.: Hunedoara, Sălaj). For this reason, it is a must to have an assessment as detailed as possible on county scale and, then, during a subsequent stage, on local scale of the smaller administrative-territorial units (communes and towns).

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