
Defining new borders for Romanian development regions¹

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The aim of the present paper is to formulate a proposal for a new regional division in Romania. As a replacement of the eight current NUTS2 level regions, we recommend a number of seventeen divisions. The regions suggested by the authors are built up using as basic territorial units the NUTS3 level counties that are currently functional in the country, and that also serve as a base for the existing NUTS2 regions. Socio-economic aspects, geographical patterns, historical regional borders and EU legislation stand as a basis when redefining regional borders. Besides presenting the recommended Romanian territorial reorganization, the development in the last decade, as well as the status-quo of the present and proposed regions is going to be analysed from a socio-economic perspective within the framework of the present study.

Keywords: Romania, NUTS2 regions, territorial reorganization, labour productivity, competitiveness, regional development.

JEL codes: R10, R58, Q18.

Introduction

In order to be able to understand and appreciate the possibility and the importance of a new regional division in Romania, it is vital to have an accurate view on the applicable legal regulation related to the topic on the one hand, and the current situation of the existing regions that

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are proposed to be reshaped, on the other hand. Therefore, the structure of the present study follows a logical line according to which, after a brief literature review, the legal framework related to the NUTS regions is presented, which is followed by the brief presentation of the administrative divisions in Romania. The status-quo of the current Romanian regions is presented afterwards. Finally, an attempt is made in the direction of a possible reshaping of the Romanian NUTS2 development regions, introducing a number of seventeen development regions instead of the eight existing ones, using as a starting point the NUTS3 level counties which – contrary to the NUTS2 development regions in Romania – have administrative authority power and self-determination rights.

The European Union's various development policy concepts highly depend on regions as territorial "starting points". The strengthening of both economic and social cohesion within the EU is thus based on the pursue of correcting imbalances between regions. According to Johannes Hahn, European commissioner for regional policy: "Regional policy is a strategic investment policy targeting all EU regions and cities in order to boost their economic growth and improve people's quality of life. It is also an expression of solidarity, focusing support on the less developed regions" (European Commission 2014.1). Having an expertly designed policy however cannot guarantee its success in terms of realization. Appropriate territorial divisions, as well as properly associated institutional systems of member states are among key issues that determine the successful realization of Europe's regional policy targets. Increased economic, social and infrastructural disparities can be detected among the numerous member states of the Union. Large disparities are noticeable regarding demographic, labour market, economic and environmental processes influencing the spatial structure of the Central and Eastern European new member-states that lead to accentuated heterogeneity in the EU (Horváth 2014a, 2014b).

Recent administrative attempts in Romania regarding regionalization were not grounded and were not accompanied by studies showing their necessity and appropriateness, they were not

transparent and lacked debates with beneficiaries. Some authors (for example Donosa 2013 and Tabără 2013) also underline the fact that authorities did not explain coherently the essence of the country's regionalization project, the competences of the regions to be created, the bonds between regional and central ministries. The question: "What goes from regional councils towards the center?" remained unanswered, too.

The existence of functional regions, however, would be essential in Romania. Functional regions, that are correctly defined, could serve as a better geographical tool for normative use than administrative regions as they can be used when assessing regional disparities, labour market policies, investments' allocation, transport infrastructure planning, etc. (Erlebach et al. 2014). In their study, Farmer and Fotheringham (2011) offer an effective regionalization procedure on a simulated geographical network and through the example of Ireland, maximizing the modularity of commuting flows.

Several researchers proposed different groupings of existing NUTS3 level units (i.e. counties) in order to offer a more effective NUTS2 regional division for Romania instead of the current one. Benedek and his co-authors use economic, cultural and demographic multidimensional criteria system for testing the homogeneity/heterogeneity as a starting point and to legitimate their proposal (Benedek et al. 2013, Benedek and Jordan 2007). They offer three different scenarios, along which they conclude with a number of ten, eleven and twelve regions, evidently smaller than the existing ones. Mateoc et al. (2013) offer two different alternatives to current Romanian development regional system with the three historical macroregions: Moldova, Muntenia and Transylvania (NUTS1 level), and further redrawing the borders of present NUTS2 regions in a way that lead to unevenly dimensioned development regional territorial units (e.g. in the second version the Transylvanian NUTS2 region consists of 9 counties, while the Dobrogea part of Muntenia only of two counties). Máté et al. (2011) in their study detect region-like structures in Transylvania using a mechanical spring-block model based on

spatiality and connectivity using geographic coordinates of settlements and by detecting neighbours.

According to Vincze (2008) regional policy is the most successful in those countries where the regional level has significantly decentralized administrative functions. The process of regionalization-decentralization should contribute to a better implementation of the EU's Cohesion Policy in Romania, opening the door for a better absorption of funds for the recently started programming period (Constantin 2013). Through regionalization not only the Regional Policy toolkit would gain better targeting possibilities, but that of the Common Agricultural Policy as well, as continuously increasing regional power in the agricultural sector is noticeable on EU level (Trouvé and Berriet-Sollic 2010).

The legal framework of regionalization

The constitution of NUTS2 level regions is regulated by Regulation (EC) No 1059/2003 published in 26 May 2003 – referring to the establishment of a common classification of territorial units for statistics (NUTS). As follows, the most important regulations related to the definition, size and role of the NUTS regions are highlighted from the text of the legal provision and some aspects related to possible amendments of them. The average size of the specified levels of class of administrative units in each of the member states shall lie within the population thresholds presented in Table 1.

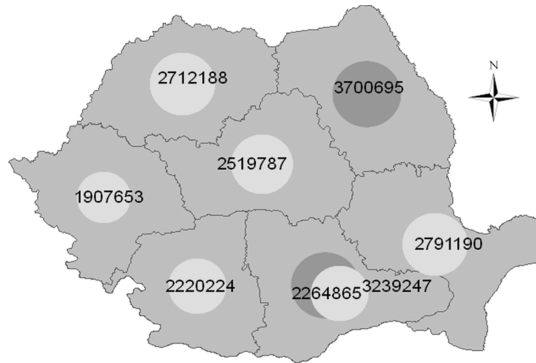
Table 1. Population thresholds of the administrative units

Level	Minimum	Maximum
NUTS1	3 million	7 million
NUTS2	800 000	3 million
NUTS3	150 000	800 000

Source: European Commission 2003

Related to the regulation of the population threshold it is important to mention that Romania breaches the provisions of the mentioned regulation, which is otherwise compulsory for each member state, as

regulations are one of the secondary legislation of the EU⁴. Figure 1 presents the population of the existing NUTS2 regions in Romania and draws the attention to the fact that in the case of two development regions the threshold defined by legislation is exceeded, as the South-Muntenia and the North-East regions have more than 3 million inhabitants.



Source: authors' own design based on NIS (2013) data

Figure 1. Population of the Romanian NUTS2 development regions in 2012

Existing administrative units within the Member States shall constitute the first criterion used for the definition of territorial units. To this end, 'administrative unit' shall mean a geographical area with an administrative authority that has the power to take administrative or policy decisions for that area within the legal and institutional framework of the Member State. Considering the timing of possible amendments to the NUTS classification, they shall be adopted in the second half of the calendar year in accordance with the regulatory procedure, not more frequently than every three years. Nevertheless, in

⁴ Regulations are directly applicable and binding in their entirety upon all member states, without providing national legislation for the implementation.

the case of a substantial reorganisation of the relevant administrative structure of a Member State, the amendments to the NUTS classification may be adopted at intervals of less than three years. When an amendment is made to the NUTS classification, the Member State concerned shall transmit to the Commission the time series for the new regional breakdown, to replace data already transmitted. The list of the time series and their length will be specified in accordance with the regulatory procedure taking into account the feasibility of providing them. These time series are to be supplied within two years of the amendment to the NUTS classification (European Commission 2003).

Finally, a determinate provision of the above mentioned regulation is considered to be Article 4, Paragraph 5 which provides that “If for a given level of NUTS no administrative units of a suitable scale exist in a Member State, in accordance with the criteria referred to in paragraph 2, this NUTS level shall be constituted by aggregating an appropriate number of existing smaller contiguous administrative units. This aggregation shall take into consideration such relevant criteria as *geographical, socio-economic, historical, cultural or environmental* circumstances.” Thus, it is clearly visible that in the process of definition of the development regions’ borders not only socio-economic criteria should be taken into account, because geographical, historical and cultural aspects are also highly important.

Administrative divisions in Romania

Eight regional divisions (so called development regions) were created in 1998 in order to better co-ordinate regional development in Romania, country which at that time progressed towards accession to the European Union. The current NUTS2 level regions in Romania are the following: North-West Region, Center Region, North-East Region, South-East Region, Bucharest-Ilfov Region, South Muntenia Region, South-West Oltenia Region and West Region. Each development region is made up by several subregional units called counties. Regional divisions in Romania correspond to NUTS2 level divisions in European Union member states, but do not have an administrative status and do not have a legislative or executive council or government. As of 2013,

Romania is divided into 41 counties and one municipality which are assigned as NUTS3 level divisions. Romania has no NUTS4 units, the counties being composed directly of cities (some of which with municipality status) and communes.

As in all modern democracies, the political power in Romania is divided into three independent branches: legislative, executive, and judicial. The government is represented at county level by the prefect; the prefect and his administration have only executive prerogatives. The territorial districts of the Romanian judicial system overlap with county borders, thus avoiding further complication. At the same time with local elections (of mayors and councilors for the cities and communes), a County Council is elected in each county. Since 2008 the President of the County Council is also elected by direct vote. The legislative powers of county councils are quite reduced, but there are plans for more decentralization. These plans, however, call for the introduction of Regional Councils for the 8 development regions of the NUTS2 level.

According to the most recent OECD urban-rural typology (Eurostat 2011), only Bucharest-Ilfov region falls to the predominantly urban category, 15 Romanian counties belong to the intermediate, the remaining 25 counties to the predominantly rural regions. The OECD urban-rural typology values show that 46.2% of the total population lives in predominantly rural regions, 43.9% in intermediate regions and only 9.9% in predominantly urban regions. From a territorial perspective 59.8% of the land belongs to predominantly rural, 39.4% to intermediate, and only 0.8% to predominantly urban regions (Eurostat 2011).

Competitiveness and convergence of the Romanian development regions

In the European Union of the 27 Member States, related to the issues of convergence, a common set of indicators and criteria has been set that can help to achieve a shared vision on the impact of certain action in order to reduce disparities. The indicators selected for evaluation of the Cohesion Policy and regional development are: GDP

per capita, unemployment, life expectancy at birth and educational level. Their use is affected by the availability of data at sub-national (regional) level in the EU (Antonescu 2012).

The situation of the currently existing eight NUTS2 regions of Romania is going to be presented as follows. We measure regional competitiveness and convergence of the regions through different indicators and groups of indicators; one of the most commonly used indicator besides the per capita GDP is considered to be the per employment GVA (regional labour productivity). In the calculation process we use two types of datasets: regional GVA values and regional employment values. In order to get a more accurate view on regional competitiveness, a sectoral decomposition is introduced, using a relative simple model of the economy, consisting of four economic sectors: agriculture, industry, construction and services.

Besides labour productivity, the evolution of the per capita GDP, employment rate and average gross nominal monthly salary earnings are also calculated and presented.

In our calculation process we used the formula below:

$$\frac{GVA}{E} = \frac{\sum_{i=1}^n \sum_{j=1}^m GVA_{ij}}{\sum_{i=1}^n \sum_{j=1}^m E_{ij}}$$

where $n=8$ is the number of NUTS2 level regions in Romania and $m=4$ is the number of economic activities (aggregated sectors) (Bíró and Bíró 2012a).

Figure 2 presents the contribution of the different economic sectors to the total regional gross value added in 2008. In all NUTS2 regions the services sector contributes at the greatest extent to the creation of the GVA and the most unproductive sector in each region is agriculture. The region of the capital, Bucharest-Ilfov, follows the same tendencies, but in an accentuated way, as the contribution of the services sector represents almost three-quarter of the total regional GVA and the contribution of the agriculture sector is negligible.

According to Cojanu and Lungu (2010) workforce is one of the most important regional competitiveness indicators. Figure 3 presents the



Source: authors' own design based on NIS (2013) data

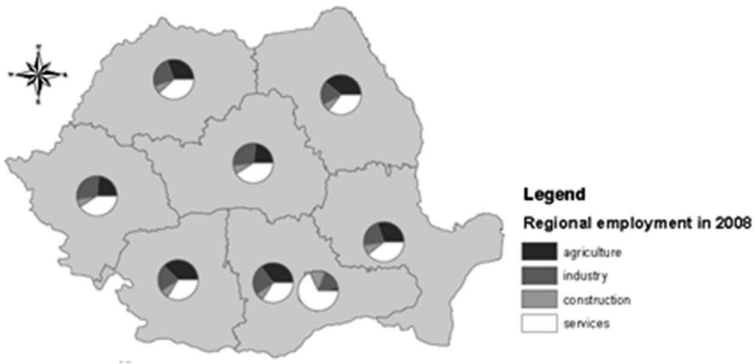
Figure 2: The contribution of the economic sectors to RGVA in 2008

sectoral distribution of the employed population by regions. The share of agricultural employment is relatively high: excepting Bucharest-Ilfov, in each region nearly one-third of the employed population works in agriculture⁵. This supports the above mentioned idea referring to the unproductive characteristic of the sector. The relatively high productivity of the construction sector can be observed in each region: a small share of the employed population is working in this sector (Figure 3), while the contribution of the sector to the total regional GVA is relatively high (Figure 2).

Using regional GVA and regional employment values, the regional labour productivity was calculated and presented in Figure 4. The most productive sector proved to be the construction sector, followed by services, industry and the most unproductive sector, agriculture.

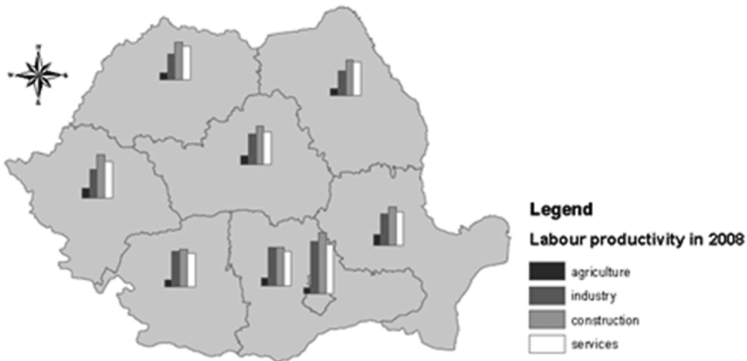
Regarding the examination of the status-quo of the existing NUTS2 development regions in Romania, the regional per capita GDP is calculated (Figure 5).

⁵ According to the OECD classification Romanian regions are predominantly rural or intermediate, only Bucharest-Ilfov region falls to the predominantly urban category (Eurostat 2011).



Source: authors' own design based on NIS (2013) data

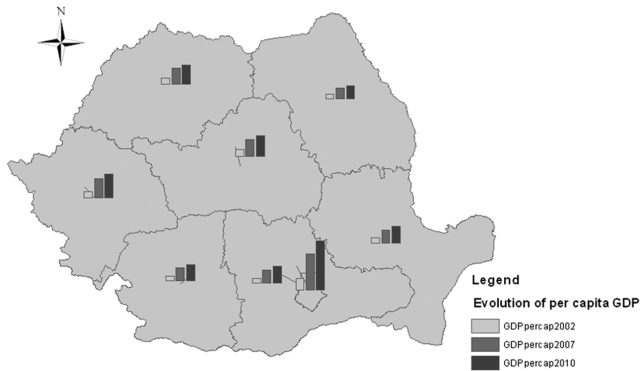
Figure 3. Regional employment in 2008



Source: authors' own design based on NIS (2013) data

Figure 4. Regional labour productivity in 2008

Changes in time show similar tendencies in each region as the per capita GDP increased during the analysed time period. On the one hand this is caused by the fact that the used per capita GDP values are expressed in lei (current prices). It is clearly visible that increase from 2002 to 2007 was higher (numbers in some cases almost doubled or



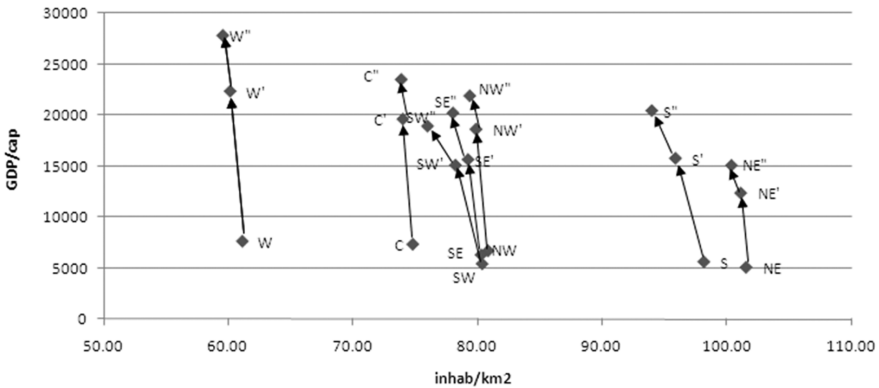
Source: authors' own design based on NIS (2013) data

Figure 5. Evolution of the regional per capita GDP between 2002 and 2010

represented at least one and half times higher values) than that from 2007 to 2010 (the sharpest increase showed a change about 30% in 2010 compared to the 2007 value) and this is not only the consequence of the simple fact that the time gap between 2002 and 2007 is wider than between 2007 and 2010 (which otherwise partly explains the tendency). Yet, the modest increase of the regional (and national) per capita GDP expressed in current prices from 2007 and 2010 is also the result of the global economic and financial crisis.

Quite large disparities of the regional per capita GDP can be observed among the development regions. Besides the outstandingly high value of the regional per capita GDP in Bucharest-Ilfov region (more than two times higher than the national average), disparities can also be found among the other seven regions, the worst performing being the South-East region (with a per capita GDP value of 15043 lei in 2010, only around 60% of the national average). The best performer among the seven development regions is the West region, the only one that has higher per capita GDP values than the national average (113%, 27774 lei in 2010).

Figure 6 presents a complex visualization of the relation between population density and per capita GDP in a given region, at different time points (2002, 2007 and 2012), the arrows indicating the direction of the regions' movement. We can observe that population density is lower in the more competitive development regions (those with the highest values of per capita GDP). Mathematically speaking, if in a fraction the denominator is higher (the number of inhabitants), the value of the fraction (per capita GDP) becomes lower. Yet, it is expectable that those regions where the number of inhabitants is higher should produce added values at higher extent than those with low population values. It is true, that this aspect is closely related to the demographic composition of the population. On the other hand, population density is also determined by geographical endowments.

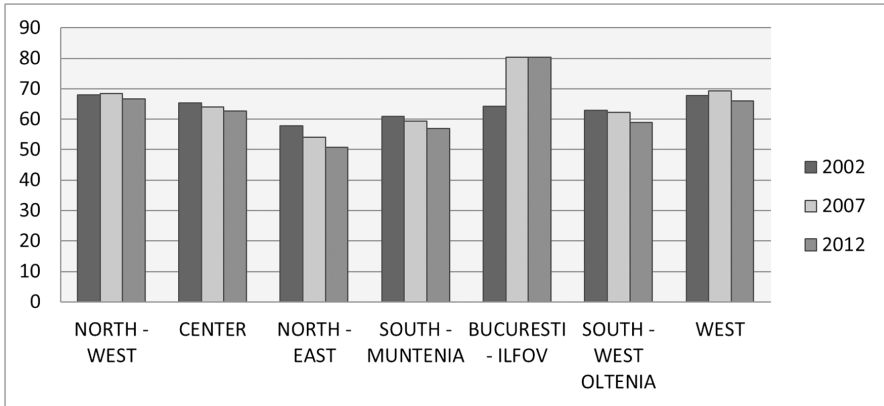


Source: authors' own design based on NIS (2013) data

Figure 6. The relation between population density and per capita GDP in the Romanian regions between 2002 and 2012

The scatter plot from Figure 6 illustrates that Romanian development regions are scattered; there exists determinant dispersion among them.

The evolution of employment rate and average gross nominal monthly salary earnings from the period 2002-2012 are presented in Figures 7 and 8.



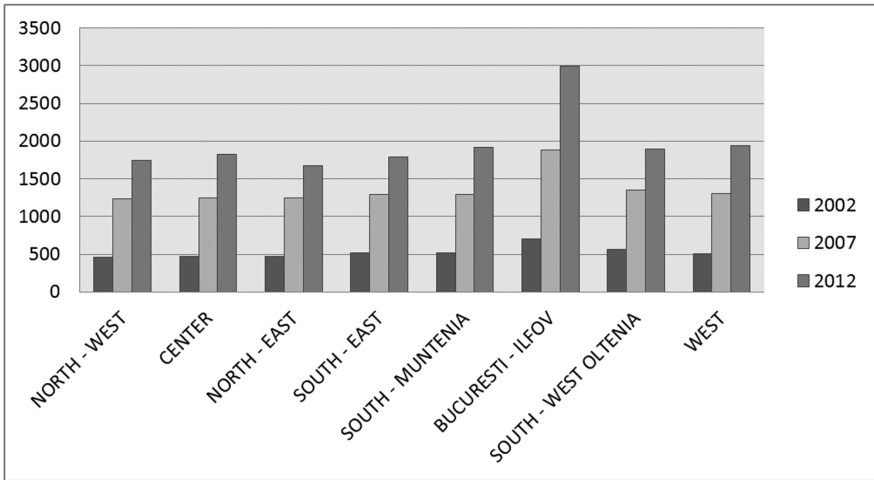
Source: authors' own design based on NIS (2013) data

Figure 7. The evolution of employment rate (%) in the Romanian development regions

Employment rate of labour resources represents the ratio, expressed as percentage, between the civil employment population and labour resources. The ratio decreased in almost each Romanian development region, the only exception being Bucharest-Ilfov region (where the employment rate increased from 64% in 2002 to over 80% in 2012). The underdeveloped character of the North-East region is conspicuous in this case as well, as the analysed ratio in the mentioned region showed a value of 50.8% in 2012, far below the national average of 61.1%.

Figure 8 shows the evolution of average gross nominal monthly salary earnings⁶ expressed in lei in 2002, 2007 and 2012. The relative position of the regions compared to each other remains the same regarding this indicator as well, as the North-East region is the worst performer, with the lowest average nominal monthly salary earning (1679 lei in 2012) and again, the best performer is the region of the

⁶ The gross nominal earnings comprise salaries, respectively money rights and other complementary benefits (bonuses, meal tickets, holiday vouchers, etc.).



Source: authors' own design based on NIS (2013) data

Figure 8. The evolution of average gross nominal monthly salary earnings (lei)

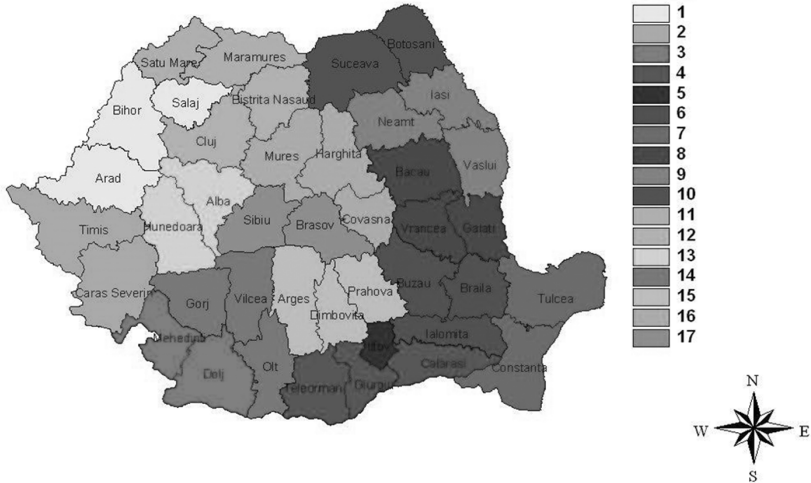
capital city (2989 lei in 2012). The values of the other six regions are situated somewhere in the (1750, 1950) interval.

An attempt for reshaping the Romanian development regions

The final chapter of the present study proposes a new regional division for Romania. The proposal uses as starting point the counties that are currently functional in the country.

Figure 9 presents the authors' proposal for a new regional division of Romania. It can immediately be noticed that the number of NUTS2 level development regions is much higher: we propose seventeen NUTS2 development regions, each of them containing two or three counties. In our proposal, each region respects the population threshold of 3 million (the waste majority of the regions has a population around 1 million inhabitants). We consider that even economic policies that refer to subnational units can be practiced more effectively in regions that are smaller from territorial and from population approaches.

Proposed NUTS2 level regions in Romania



Region	Counties	Region	Counties
1	Arad, Bihor, Sălaj	2	Caras-Severin, Timiș
3	Dolj, Mehedinți	4	Călărași, Teleorman, Giurgiu
5	București, Ilfov	6	Brăila, Buzău, Ialomița
7	Constanța, Tulcea	8	Bacău, Galați, Vrancea
9	Iași, Neamț, Vaslui	10	Botoșani, Suceava
11	Maramureș, Satu Mare	12	Bistrița-Năsăud, Cluj
13	Alba, Hunedoara	14	Gorj, Olt, Vâlcea
15	Argeș, Dâmbovița, Prahova	16	Covasna, Harghita, Mureș
17	Brașov, Sibiu		

Source: authors' own design based on NIS (2013) data

Figure 9. Proposed development regions for Romania

The new division takes as a starting point not only economic, but historical, geographical and legal aspects as well, as stated in Reg. (EC) No 1059/2003, Article 4, Paragraph 5. The historical perspective refers to the fact that when reshaping we respected the borders of the old historical regions: Banat, Bucovina, Crișana, Dobrogea, Maramureș, Moldova, Muntenia, Oltenia and Transilvania.

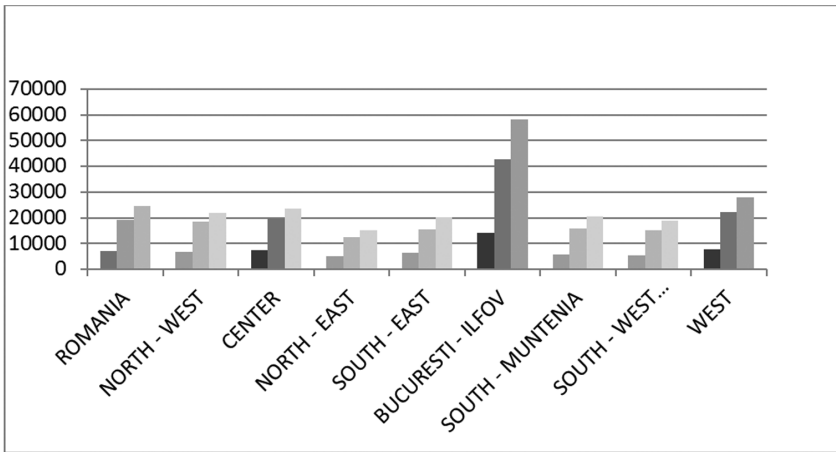
Besides the simple displacement of the regional borders a real

valuable proposal should refer to the assignment of administrative authority power and self-determination rights for the development regions both in the case of current or proposed divisions. However, even if current NUTS2 development regions do not have any financial autonomy (contrary to counties, cities or communes) they play a vital role in the efficient use of European funds (called European Structural and Investment Funds in the 2014-2020 programming period) and the increase of their absorption ratio.

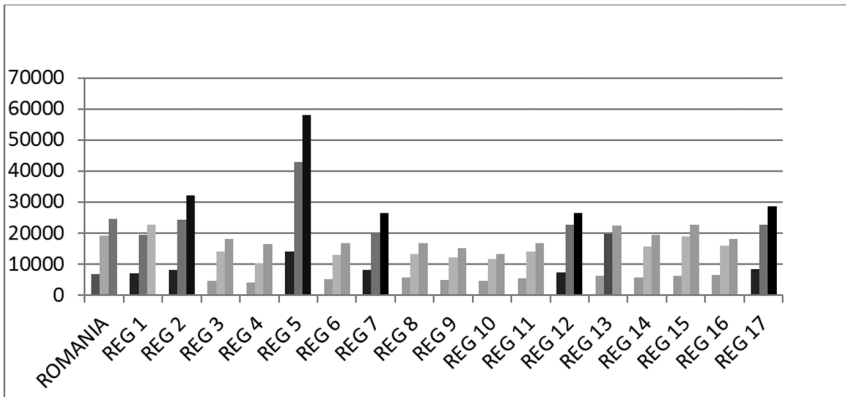
Figure 10 shows the evolution of per capita GDP in 2002-2010 in the current and proposed development regions in such a manner that if the value of a specific region in a specific year is higher than the national average, the colour of the column representing the given region in the given year is darker than that of the national average, otherwise it has a lighter nuance.

Darker nuance occurs more frequently in the case of proposed regions, which means that with the new regional division we have created smaller and more homogenous regions. It is true that there are more regions with lighter colour, but those are again more homogenous with lower regional competitiveness values. Per a contrario, the question is obvious: does the more fragmented new division affect negatively the convergence of the regions, increasing the developmental gap between them? The question is somewhat legitimate, yet the answer is not unequivocal: it is true that by separating more developed counties to form together a region – and naturally as a consequence more undeveloped counties together create more undeveloped regions – the difference between the regions increases, but homogenous regions with similar development problems can be better treated, specific regional policy instruments can better be targeted to them.

Maybe the developmental gap widens at the beginning, divergence appears, but the region itself can be developed in a better way, otherwise the developed counties of a region drain the potential from the undeveloped ones and divergence is going to appear within the region which is a greater threat regarding regional development. In summary, homogeneity helps the catching up of the lagging behind regions even if at first sight the homogenous fragmentation of the regions seems to determine divergence between the regions of the country.



a.



b.

Source: authors' own design based on NIS (2013) data

Figure 10. Per capita GDP values expressed in lei in 2002, 2007 and 2010 in the current (a) and proposed (b) NUTS2 regions

Another important aspect related to the topic of the new regional division proposed by the authors is the issue of the expenses that this new regionalization would bring. It is obvious that with more regions,

more regional institutions are required, meaning extra costs. Yet, there are solutions for this problem: for example the Technical Assistance Operational Programme (with a budget of about 250 million euro for 2014-2020) could finance the better functioning of the system.

Another important observation can be related to the role of the development regions in the process of withdrawal and usage of the EU funds. Regarding the CEEC countries that accessed to the EU with the occasion of the enlargements from 2004 and 2007, according to a study carried out by Baun and Marek in 2008, in the first programming period after the accession (2004-2006) Cohesion Policy was implemented in a highly centralized manner in the new member states; national governments were responsible for program planning and management, and sub-national authorities played only a very limited and subordinate role. In 2007-2013, however, Cohesion Policy was implemented (in those member states that accessed in 2004) in a more regionalized or decentralized fashion (Baun and Marek 2008). In the case of Romania the same tendency can be detected, as the 2007-2013 programming period was the first post-accession time horizon, the role of central authorities were determinative (even if sub-national management authorities exist). However in the process of preparation for the 2014-2020 programming period, decentralized authorities at regional level get a more emphasized role. According to this, if the future holds greater roles to the regions, the issue of both current regional division and future regional “re-division” becomes even more important.

Conclusions

In the present study we have analysed the competitiveness and convergence of the current Romanian NUTS2 development regions, and proposed a new territorial division of the country in the view of a more efficient functioning.

The increase of labour productivity in the primary sector would be crucial for Romania in the medium and long-run, being a country that consists of mostly predominantly rural and intermediate regions – according to the OECD classification – showing very high shares of agricultural employment. On the one hand this is a must in the view of

reaching higher level labour productivity values and thus increasing regional competitiveness, on the other hand it should be considered as a valuable country potential that is currently insufficiently exploited. The diversification of economic activities in rural areas would also be essential in order to absorb the persisting agricultural labour force excess.

Absorption of EU funds for 2007-2013 shows that more developed regions applied for more support than less developed ones (Bíró and Bíró 2012b, Bíró and Bíró 2012c). As a consequence, we are facing the situation when richer regions are getting more and more rich, while those lagging-behind cannot catch-up. This way disparities between regions are deepening.

The definition of the proposed development regions' borders was based not only on socio-economic criteria, but on geographical, historical and cultural aspects as well. We believe that EU policies, such as Regional and Cohesion Policy and Common Agricultural Policy could better reach their goals with the proposed system of NUTS2 regions in Romania. A higher level of decentralization, together with the necessary institutional system with proper administrative authority power and self-determination rights, could lead to higher absorption ratios and a more effective use of European Funds.

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