INTERCONNECTIONS BETWEEN LOCAL FINANCES AND REGIONAL DEVELOPMENT – A STUDY CASE OF ROMANIA.

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Abstract
The objectives of economic development are promoted at the local administration level in the context of modern principles of public administration, as decentralization of public tasks, local autonomy and including the legislation of the right to self-government of local authorities. In this paper we performed an analysis on the role of local public finances in economic development, in Romania, using data reported in the online TEMPO database of the National Institute of Statistics and the Ministry of Public Works, Development and Administration for different periods of time. The main results confirm a strong interrelationship between different indicators from local public budgets and some indicators of development, which allow the formulation of useful policy recommendations for local government policy programs and the substantiation of economic development strategies.

Keywords:
Local budgets, local fiscal consolidation, local revenues and expenditures, economic development.

JEL Classification:
H29, H77, O10.

Introduction

Along with the so-called "glocalization" trend (Onofrei and Oprea, 2017), the objectives regarding economic development (elimination of poverty, diminishing regional disparities) derive from the central level to the local level, indirectly becoming a concern of local public authorities too.
In the current times, marked by the economic stagnation caused by the COVID-19 pandemic, the main challenge is to keep the economic decline, the increase of deficits and public debts within bearable limits. In this context, the usual objectives of economic development (elimination of poverty, diminishing the regional disparities) involuntarily remain in second place and it is not excluded that their real situation in the economy

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will worsen even more. Overall, from a long-term perspective the great challenges of economic development refer to social equity, to diminish the polarization of the economy, as there are huge differences between different administrative-territorial units in Romania (but also in many other countries) regarding the sustainability.
The premise of our study is that local budgets are important instruments of public development policy but conditioned by an optimal structure of local public revenues and expenditures. In this sense, we aimed to analyse the role of local public finances on the development in Romania, mainly at counties level (NUTS III), but on regional level too (NUTS II), with the purpose of providing robustness to the results of the study, for different periods of time, between 2000 and 2019, depending on the availability of data. Our analysis is based on a descriptive and exploratory approach, using scatter plot charts, which provide information regarding the positive/negative sense and intensity of the relationship between two selected variables. The selected indicators of the local budgets are mainly: total local revenues, financial autonomy, total local expenditures and several other categories of local expenditures, considered suggestive in relation to different development indicators (local socio-cultural expenditures, local expenditures for capital, and local expenditures for education). Regarding the development, we used the regional GDP indicator, and as reverso, the Poverty Rate. Considering the multiple facets of development, in addition, we chose to compute an Educational Infrastructure Index at county level in Romania, in order to see its interconnection with the local education expenditures. The obtained results confirm our main assumption, that local public finances exert positive influence on the regional development in Romania.
The paper is structured as follows: in the first section we made a brief review of the extant literature, in the second section we analysed the consolidation progress of local budgets on the revenues side and their implications on regional development. A similar analysis we conducted for the expenditure side. Lastly, we draw some concluding remarks and useful recommendations for local political programmes' improvement and local public policies for economic development.

1. Literature review

Economic development is one of the main concerns among other macroeconomic issues, grounds for public policy objectives. According to Boar et al. (2020), economic development consists of a multidimensional process that involves important changes in various social structures, in the civic attitude as well as in national institutions, involving as main objectives economic growth, diminishing disparities and reducing / eradicating poverty. Todaro and Smith (2011) give a similar definition of economic development emphasizing that this should reflect an improvement of lifestyle in general. With the manifestation of the process of decentralization of public administrative competencies, economic development can and really represent a policy objective at local or regional level also. In this sense, Onofrei and Oprea (2017) conducted a study with the general purpose of identifying the main tendencies of the administration in southern and eastern Europe and their challenges, bringing evidence that local budgets are important actors for socio-economic life of communities. The results confirm a tendency towards "glocalization" of public management, but also an intensification of

public tasks at regional level, emphasizing that local authorities in these countries are more oriented towards socio-cultural activities and less towards economic affairs.
Reported to the above, the literature includes numerous studies on the impact of local public finances (most often represented by indicators of fiscal decentralization) on economic growth and development. Tselios et al. (2012) conducted a study using multiplicative interaction models and aggregated microeconomic data at the regional level for 100,000 individuals in the European Union. The results reveal that higher fiscal decentralization is correlated with a lower disparity of interpersonal income, but when regional income increases, further decentralization leads to a lower decrease of inequality. Buser (2011) examined the impact of public decentralization on income per capita for 20 OECD countries with high income and confirmed a positive relationship between the decentralization and income, but this being conditioned by the quality of institutional environment. Slavinskaitė (2017) conducted a study on a sample of unitary countries of the European Union on a timescale from 2005-2014. Its results suggest, on the one hand, that there is a positive relationship between decentralization and economic growth for developing countries, and on the other hand, that there is no relationship between the two variables in developed countries. In a similar study (Molotok, 2020) based on twelve unitary states from Europe it is found that fiscal decentralization of revenues shows a positive impact on innovative country development, measured by the Global Innovation Index, while decentralization of expenditures shows a negative impact. Bodman (2011) identifies little evidence of a direct relationship between fiscal decentralization and the increase of production in OECD countries, but the author found evidence that within federal systems there are lower growth rates compared to unitary states, regardless of their level of decentralization. Another study (Martinez-Vazquez and McNab, 1997) strengthen that fiscal decentralization has a positive impact on economic development. Similar result was obtained by Lin and Liu (2000); Thiessen (2003); Lessman (2009, 2012); Kyriacou et al. (2017).
On the other hand, there are some studies showing a negative impact of decentralization on economic development, which creates an inconclusive overview in the field. Meloche et al. (2004) found that in transition countries, the expenditures of subnational governments are not correlated with economic growth, but the level of local autonomy is positively correlated with economic growth. Davoodi and Zou (1998) reveal that intergovernmental transfers (representing a measure of decentralization) have a negative impact on economic growth in developing countries but have a positive impact in developed countries. Mladenovska and Tashevska (2019) show that decentralization has a negative effect on the growth of the GDP per capita indicator in CEE countries for the period between 1999-2012. The authors suggest that a possible explanation is that in the case of developing countries, certain economic and institutional conditions are lacking, which overshadows the potential positive effects of decentralization on the economy.
Similar studies are conducted for the Central and Eastern Europe countries. (Abdellatif et al., 2015) performed a study on a sample based on eighteen transition countries, in Eastern Europe for the period 2002-2008. The results show that decentralization has a positive impact on growth but is conditioned by local autonomy (which is natural). At the same time, the results of the research confirm the inverse causality between the indicators of local public finances and growth (that a certain level of growth leads to a

decrease in government intervention, therefore a reduction of public sector in the economy). Another research for a group of sixteen countries from Central and Eastern Europe for the period 1990-2004 (Rodríguez - Pose and Krøijer, 2009) by including time lags in the analysis, reveals that local spending and intergovernmental transfers are negatively correlated with economic growth, but local taxes are positively correlated with the national growth rate, claiming that local governments with their own sources of income better meet local needs and increase economic efficiency.

Dragoman, D. (2011) conducted a study on the performance of regional administrations in Romania and its implications on regional disparities. The main conclusion is that institutional capacity at the county level is not fully correlated with the level of regional development, but discussions and strategies to reduce regional disparities cannot be made outside the mechanisms of distribution of public financial resources, decentralization and local autonomy. The results of the study show that in some cases, poorer counties manage the road and bridge sector more efficiently. The author suggests as a possible explanation the politicization of the mechanism of distribution of financial resources according to different electoral opportunities and preferences. Other researches for the case of Romania show that local expenditures do not manifest significant impact on territorial growth (Bilan et al., 2014) and that fiscal policy at regional level has little implication in reducing inequality and poverty (Gavriluţă et al., 2020).

Rusu, Cigu and Petrisor (2017) found that in Romania the decentralization process is not completed, because local governments still face a lack of predictability caused by the instability of the central government. Also, the budgets of the cities in the country have not progressed so much in terms of local financial autonomy, and where financial autonomy is higher the authors claim that this is due to the geographical position of the city. From this context it results that it would be premature to discuss the potential positive impact of local public finances on economic development, so local finances are not yet consolidated, according to the analysis from our study and other researches (Alexandru and Guziejewska, 2020). However, in another study on Romania (Danuletiu, 2010), the author claims that local governments may have important contributions to well-being in communities and it is argued that in the face of insufficient own resources, local public authorities may turn to various financing alternatives and that an easily accessible resource is represented by municipal bonds.

Results from the extant literature may be inconclusive, but on closer inspection it should be noted that the potential positive effects of decentralization on economic development are conditioned by certain factors, and public decision makers should seek and improve the action of that incident factors. The most important factor is the institutional capacity (Rodríguez-Pose, 2013) that reflects the ability of an institution to set (smart) goals and enact public policies in order to achieve them. Our believe is that by strengthening the public decision-making process and institutions the positive effects of public local finances would be more visible on the economic development.

2. Analysis of public local revenues consolidation and their implications on development

2.1. Local consolidation on the revenues side – some stylized facts

Consolidation of local budgets must generically reflect efforts to optimize the structure and dynamics of local revenues and expenditures, sustainability of the local budgetary situation, control of deficits under good governance criteria, such as balance, predictability, equity, transparency, participation and progress.
The main local public revenues are local taxes and fees, income tax transferred classified as own revenues, amounts transferred from some state budget revenues, subsidies received from the state budget and donations and sponsorships (Art. 5, Law 273/2006). The level of financial autonomy of local budgets is reflected by the level of own revenues, which should cover the need to finance the local public spending. The evolution of local financial autonomy in Romania is illustrated in Figure no. 1.

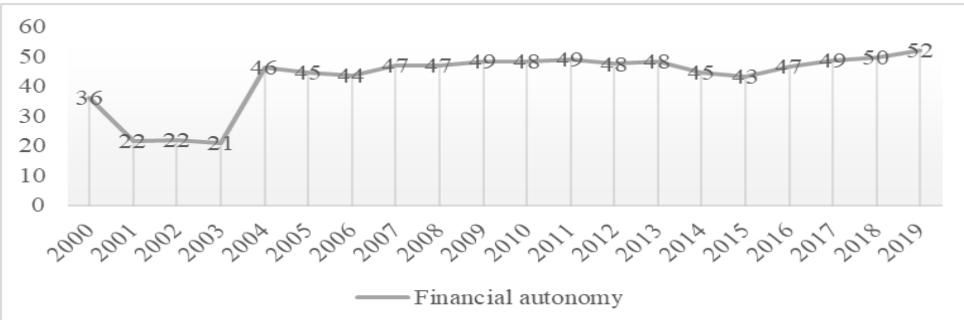

Figure no. 1: Local financial autonomy in Romania at county level, 2000-2019
Source: Ministry of Public Works, Development and Administration, www.mlpda.ro

Overall, local autonomy in Romania has improved since 2004, when the financial resources from transferred quotas of income tax was included in the category of own revenues (OUG no. 45/2003). Since that moment, financial autonomy trend follows only slow decreases, but also small increases. The main observation is that financial autonomy remained all time at an insufficient level (maximum 52% in 2019), so that local budgets could never autonomously finance the multitude of local public needs. For the year 2019, the smallest values of financial autonomy are in Mehedinti, Teleorman, Giurgiu, Vaslui, Botosani, Olt and the highest values are recorded in Municipality of Bucharest (assimilated to the legal status of the counties), Ilfov, Brasov and Timis.
Additional to the problem of the low level of financial autonomy in general, one should consider that, in fact, the actual level of financial autonomy is formed by including transferred quotas of income tax from central level, which does not fully reflect the term of "autonomy" of local budgets.
Through the actual legal frame, the central authorities set the form and establishment of the tax levy, the taxable sphere, the tax rate, so the administration of the income tax. This may affect the stability of substantiation of local public revenues, as practice proves, that the income tax quotas distributed in the territorial plan have been modified

several times over period analysed (Art. 32 from The Law no. 273/2006), and currently the income tax is transferred entirely to the local budgets (Law no. 286/2020, which modify the Art. 32 from The Law no. 273/2006).
Another aspect which makes financial autonomy of local budgets questionable is that the criteria according the income tax quotas are distributed are not clear enough, but one may interpret them himself. A large analysis concerning the technique of income tax distribution is made by Oprea (2011), where it is emphasized that the legal frame should set clear criteria in this context, in order to ensure stable, clear and predictable sources of local revenues.
Finally, local autonomy in Romania is insufficient consolidated, considering that the ideal target of autonomy is close to 90% own revenues. In this context, local authorities, sustained by the central ones should continuously seek to increase the own revenues. In our view, the efforts should be concentrated and with visible results for the close future, giving (not only) the long past horizon when improvements stopped to appear, but also the multitude and pressing needs of the social and economic life for the most of the local communities in Romania.
Other important local revenues are amounts transferred from some revenues of the state budget and subsidies received also from the state budget. The first category, in general includes amounts transferred from value added tax (VAT) and both of the mentioned revenues type are usually allocated to mandatory expenditures. In this context, local financial management is devoid of substance, the circuit of the respective financial resources being directed (managed) from central level in fact. In our vision, these practices affect the local autonomy and the capacity of proactivity of local managers needed to initiate and conduct political development programs. Evolution of the main categories of transfers from central to local level are reflected in Figure no. 2.

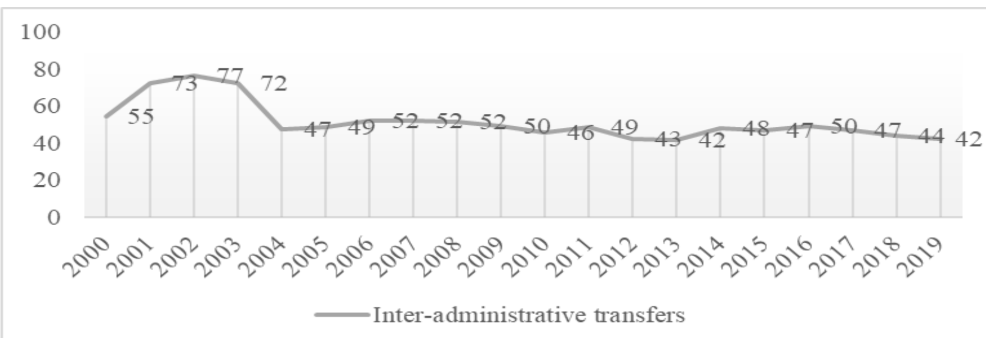

Figure no. 2: Inter-administrative transfers from central to local budgets in Romania at county level, 2000-2019
Source: Ministry of Public Works, Development and Administration, www.mlpda.ro

The highest value of inter-administrative transfers was 77% in 2002 and the smallest was 42% in 2013 and 2019. Like financial autonomy indicator, inter-administrative transfers recorded a major change – decrease in this case – in 2004, as reversal to the increase of own revenues of local budgets. However, many transfers from state budgets

(such as subsidies and quotas deducted from VAT) are intended to finance mandatory expenditures which, in addition to highlighting a limitation of financial autonomy, also overshadow the decision-making autonomy of local authorities.
On the other hand, one should keep consider that some parts of own revenues (transferred quotas from income tax) are not entirely legitimated to the concept of financial autonomy of local budgets. These types of public local revenues represent also transferred financial resources, susceptible at least, to failure in complying essential criteria of their foundation as predictability and stability. In Figure no. 3, it is reflected the evolution of intergovernmental transfers but also the evolution of them including transferred quotas from income tax. Both of trends express levels of the dependence of local budgets to central budget, from different perspectives.

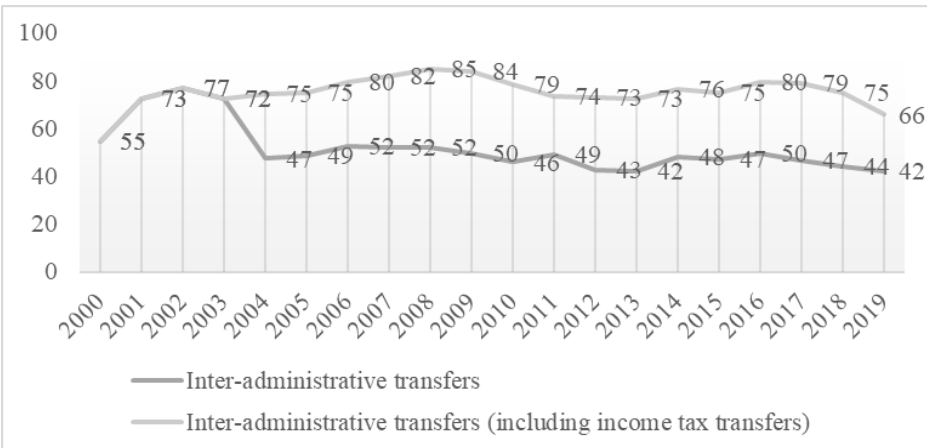

Figure no. 3: Inter-administrative transfers from central to local budgets in Romania at county level – different perspectives, 2000-2019
Source: Ministry of Public Works, Development and Administration, www.mlpda.ro

The inter-administrative transfers (including income tax), in condition of failure of complying foundation public revenues criteria (as actually it happens in Romania case), are raising in fact the dependence of local budgets to central budget. In this context, it is diminished the financial autonomy and thus, it is affected the potential capacity of local budgets to influence the development of local communities.
Financial autonomy of local budgets could be improved in many ways. Local managers should permanently seek to increase financial resources by implying into municipal associations, public-private partnerships, absorption of non-reimbursable funds or borrowing for investing.

2.2. Interconnections between local revenues and development

In this part we wanted to find possible implications of local revenues and financial autonomy on development of regions. The most used indicator to measure the level of development of a legally delimited territory is the gross domestic product of that territory (GDP), although it does not comprise the multidimensional value of it. There are many indicators for measuring development at the international level (Widuto, 2016), but the most common still remain GDP due to its large statistics over time and territories, offering the possibility of issuing relevant comparisons based on it between countries, regions (NUTS II and even NUTS III). Therefore, we use too this indicator in our analysis. In figure no. 4 we exposed the level of GDP, differentiated as average on counties and nominal value for Bucharest.

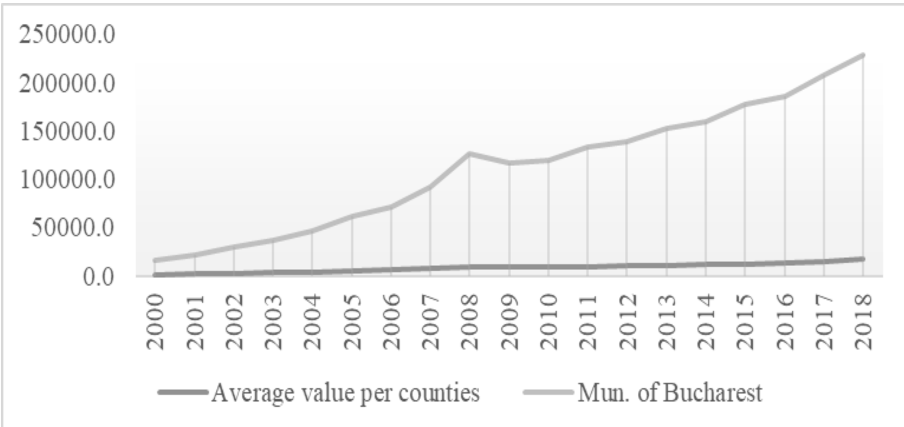

Figure no. 4: The nominal level of GDP in Romania at county level, 2000-2018, mil RON

Source: National Institute of Statistics, www.insse.ro

The graphic illustration highlights a huge difference between the GDP level of Mun. of Bucharest and the GDP level as average for the rest of the counties since the beginning of the period. With the passage of time, the difference between the two increased enormously, deepening regional development inequalities contrary to policies and "efforts" of public authorities to reduce them. For example, the lowest values of GDP in 2018 are found in the counties of Covasna, Calarasi, Giurgiu, Tulcea (from 7,210 to 7,689 mil RON), and at the opposite pole, the highest values are in Bucharest (229,530 mil RON), Cluj, Timis, Constanta (from 47,085 to 39,441 mil RON). The nominal values of GDP in 2018 for the counties of Romania confirm the special status of the Bucharest region. It is recommended to accept this fact as such and to initiate a differentiated policy on economic development at county level. For the Municipality of Bucharest, the main objectives must be oriented mainly towards sustainability, and for the rest of the counties, the policy objectives must integrate the visions of catching-up in general and sustainability also.

In figure no. 5 we reflected the corelations between total local revenues and GDP (from Appendix 1) at county level. We included data for the 41 counties of Romania based on a timescale between 2000 and 2018 and excluded the Municipality of Bucharest due to its high-level indicators on local public finances and of development too, which could lead to distortion in the graphical representations (we proceeded similar and for the rest of the analyses in the paper).

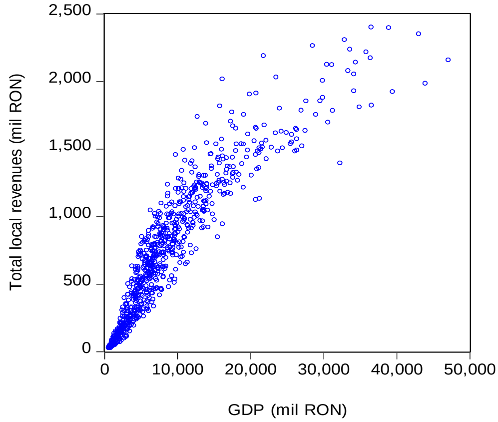

Figure no. 5: The connection between total local revenues and GDP at county level (2000-2018)

Source: Own processing of data published by Ministry of Public Works, Development and
Administration, www.mlpda.ro and National Institute of Statistics, www.insse.ro

We find a strong and positive interaction between total local revenues and GDP, the graphical representation confirming the major influence of the processes of gross domestic product redistribution in the formation of local public financial resources. On the other side, it is noted that total local revenues have their implications on determining a certain level of regional gross domestic product. In this respect, we should keep emphasizing that the fruitful results of this relationship are conditioned by the stability and predictability of local public revenues mainly.
Further, we exposed a relationship between local financial autonomy (computed as the ratio between own revenues including transferred quotas from income tax) and GDP at county level (figure no. 6).

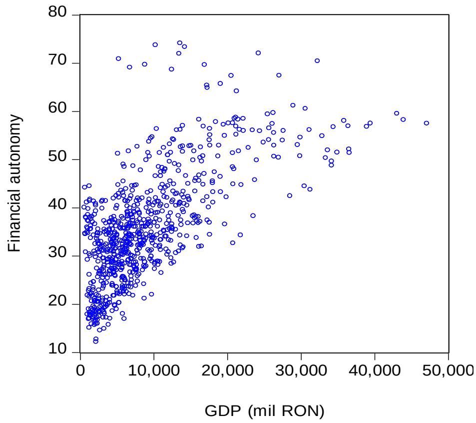

Figure no. 6: The connection between local financial autonomy and GDP at county level (2000-2018)

Source: Own processing of data published by Ministry of Public Works, Development and Administration, www.mlpda.ro and National Institute of Statistics, www.insse.ro

The results show a positive relation between local financial autonomy and GDP at county level. The connection between the two variables becomes inconclusive on the graph from a certain level of local autonomy upwards. This could be explained by the fact that GDP may not be the most appropriate indicator to measure the level of development, this having multiple valences (economic, social, political, environmental, spiritual, etc.). However, our results are in line with Abdellatif et al. (2015) show that the positive effect of decentralization on economic growth is conditioned by the autonomy of local budgets. Hence, we also emphasize the need to increase the local autonomy as close as possible to the maximum, this being an indisputable condition for the proliferation of a proactive and responsible attitude from the part of local public authorities and of course for the efficient and effective fulfilment of the needs of local communities and improving their social and economic life. Other studies (Rodríguez - Pose and Krøijer, 2009 on Central and Eastern European countries) also show that local governments with their own sources of income better meet local needs and increase economic efficiency.

Further, we analyse the progress of the regions from the perspective of the indicator of Poverty rate calculated by the National Institute of Statistics (figure no. 7).

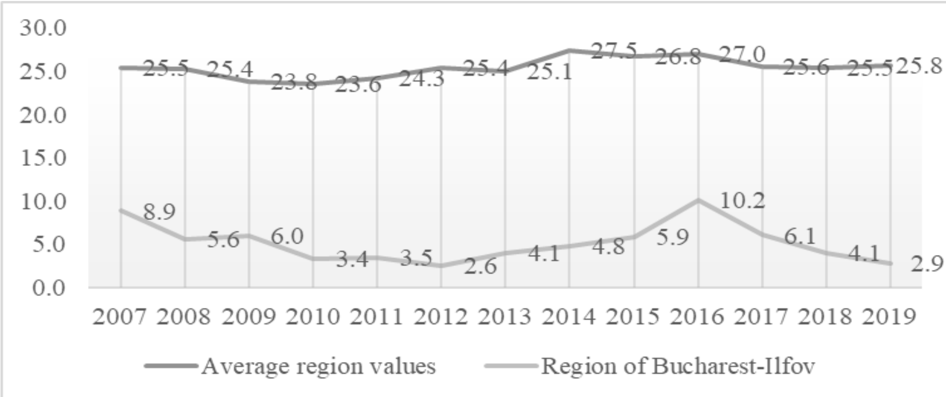

Figure no. 7: Poverty rate in Romania at regional level - NUTS II (2007-2019)
Source: National Institute of Statistics, www.insse.ro

Although the nominal value of the GDP level shows some progress of the regions, the Poverty Rate indicator does not show a significant visible improvement regarding the standard of living at regional level from 2007 to 2019. On the contrary, it is observed that there were small tendencies to increase the poverty rate during the analysed period, so after a decade poverty rate value at regional level is similar to the value from the beginning of the analysed period (approximately 25%). The trend is different in the case of the Region of Bucharest-Ilfov, where the poverty rate shows an important improvement in living standards, from 8.9% in 2007 to 2.9% in 2019. Ideally, a similar evolution is desired in the case of the rest of the regions. In this sense, the efforts of the competent authorities must be oriented in this direction, seeking to attract alternative sources of financing in order to consolidate (increase) capital expenditures (recommended by attracting alternative financing sources) and to invest in community development projects.

By figure no. 8 we analysed the relationship between the variables local financial autonomy and poverty rate, this time at the level of the 8 regions of Romania (these correspond to the NUTS-II level divisions in the EU) because the latter is available only at this administrative level on a timescale from 2007 to 2019.

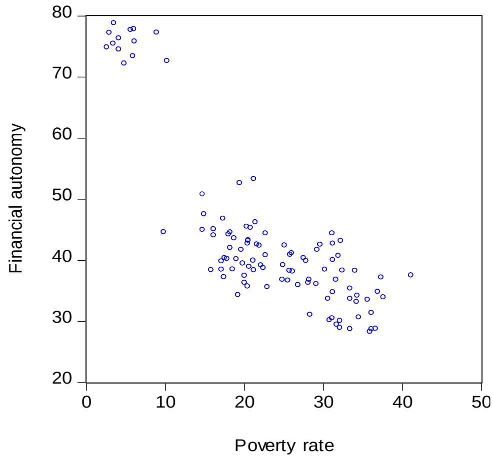

Figure no. 8: The connection between local financial autonomy and poverty rate at regional level - NUTS II (2007-2019)

Source: Own processing of data published by Ministry of Public Works, Development and Administration, www.mlpda.ro and National Institute of Statistics, www.insse.ro

As expected, the results show a negative and strong relation between local financial autonomy and poverty rate, confirming the importance of a performant local financial management for combating poverty and for the development of local communities. The point cloud at the top left of the graph reflects values from the Bucharest-Ilfov Region, whose variables stand out clearly from the variables in the rest of the regions. They highlight even more that the relation between the two selected variables being more important and evocative, as the graph shows that a very high level of local autonomy is associated with a very low poverty rate, these being consistent with the results of the figures 5 and 6.

3. Analysis of public local expenditures consolidation and their implications on development

3.1. Local consolidation on the expenditure side – some stylized facts

Regarding the consolidation of local public expenditures, our analysis begins with some graphical representations of the structure and evolution of this according to the functional classification - figures no. 9 and 10.

Figure no. 9: Local expenditures on counties level - percentage in total expenditures (2000 – 2019)

Source: Ministry of Public Works, Development and Administration, www.mlpda.ro

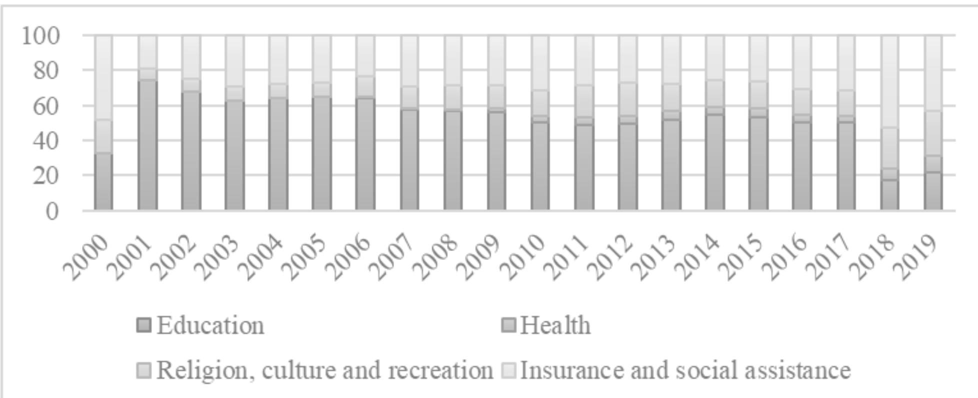

Figure no. 10: Local social-cultural expenditures at county level - percentage in total social-cultural expenditures (2000 – 2019)

Source: Ministry of Public Works, Development and Administration, www.mlpda.ro

The highest expenditures are those for socio-cultural needs (education, health, culture, religion and recreation and insurance and social assistance) reflecting the prioritization of their fulfilment through local political programs, followed by expenditures for economic actions. On the other hand, the smallest amounts are allocated to expenditures on defence needs, public order and national security (this area is rather financed by the state budget).

Among the socio-cultural expenditures, the subcategory with the largest share is represented by the expenditures for education followed by those for insurance and social assistance. The subcategories culture, religion and recreation and health have the lowest percentages in the total socio-cultural expenditures.

Our research is also completed by an analysis regarding the structure and evolution of local expenditures on the economic classification – figure no. 11

Figure no. 11: Local expenditures, economic classification at county level in Romania – percentage in total local expenditures (2000 – 2019)
Source: Ministry of Public Works, Development and Administration, www.mlpda.ro

Staff expenditures have a significant share in total local expenditures, but they are characterized by significant fluctuations in increases and reductions in the analysed period reflecting a certain instability of public administration staff caused by changing policies on the number of public sector employees and their wages, modified according to the cyclicality of the economy and the electoral one. For the years from the beginning of the analysed period, materials and services spending also have a high share. The interest expenditures seem to have small relative values, while subsidies and transfers spending are more visible also at the beginning of the analysed period. At any rate, the above-mentioned categories represent current local expenditures, which together have much higher values (varying between in 60%-80% in total local expenditures) compared to capital expenditures (with a maximum value of 23% in total in year 2019). A similar trend of these categories of local expenditures is confirmed also by the results of Abdellatif et al. (2015). A more significant influence of local public finances on economic development, implicitly, also implies a higher level of capital expenditures, in order to accelerate the increase of the living standard within the local communities. In this sense, a good consolidation of local public finances on the expenditure side presupposes a judicious substantiation of current expenditures, to be based on real needs and respecting the criteria of efficiency, effectiveness and economy, as well as an intensification of efforts to increase capital expenditures (looking for alternative resources to finance them).
Furthermore, related to the consolidation of local expenditures, in the analysis of administrative transfers we mentioned the fact that they finance some mandatory expenditures at local level. Establishing from the central level the concrete destinations of the expenditures of the local budgets, contradicts the right to local autonomy, the best

solution being that the decentralization of some public competencies to be achieved simultaneously with the adequate sources of their financing. In practice, however, it turns out that re-centralizing tasks can be a suitable solution also. An example, in this sense, is the re-centralization of staff costs (teaching) for pre-university education in 2018 (Art. 104, Law no. 201/2018). Until then, this task was financed through local budgets from amounts decided annually and transferred from the state budget (Art. 104, Law no. 1/2011). Relieving local authorities of mandatory tasks is an important action because it provides space for concern and meeting the specific needs of the community. From our point of view, it is opportune to re-evaluate the nature and resonance area of the already decentralized competencies in order to a clearer division of public tasks between central and local authorities, as well as to continue the efforts to establish stable and predictable funding sources for every each of them.

3.2. Interconnections between local expenditures on development

In this part of the section, we bring important positive evidences between the interaction between local expenditures and various development indicators.
In figure no. 12 it is illustrated the connection between total local expenditures and GDP per capita.

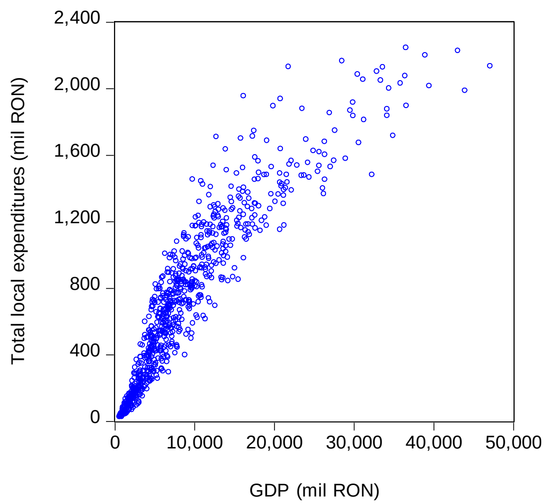

Figure no. 12: The connection between total local expenditures and GDP at county level (2000-2018)

Source: Own processing of data published by Ministry of Public Works, Development and Administration, www.mlpda.ro and National Institute of Statistics, www.insse.ro

The data show a strong and positive connection between total local expenditures and GDP at county level. The graphic illustrations show that an increase of GDP at county level draw an increase of total local expenditures (especially if they include important shares of productive expenditures) and inversely. In this case, we find it necessary to highlight that the relationship must be conditioned by the rigorous substantiation of the

expenditures, based on the real needs and by implementing effective cost control mechanisms. Also, the competent authorities should permanently seek to optimally allocate financial resources within various local expenditures. Similar results were obtained by Abdellatif et al. (2015).
Further, we exposed the interrelation between various categories of local expenditures and GDP (figures no. 13 and 14).

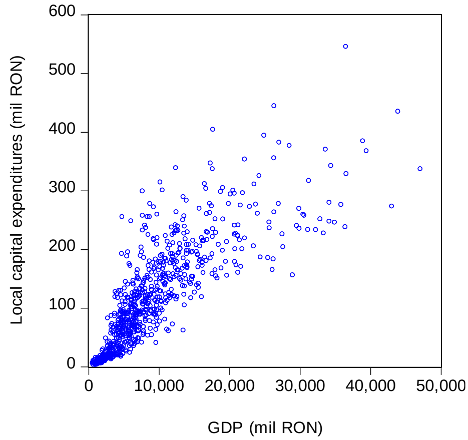

Figure no. 13: The connection between total local capital expenditures and GDP in Romania at county level (2000-2018)
Source: Own processing of data published by Ministry of Public Works, Development and Administration, www.mlpda.ro and National Institute of Statistics, www.insse.ro

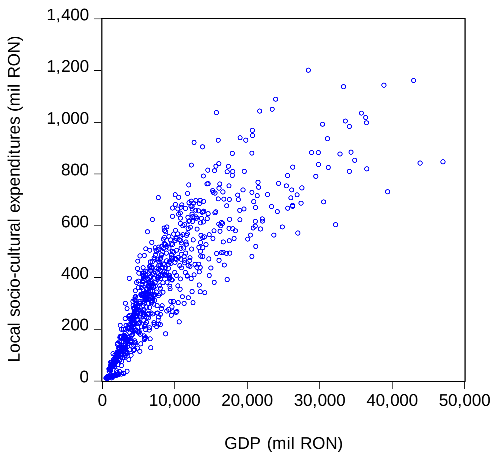

Figure no. 14: The connection between total local socio-cultural expenditures and GDP at county level (2000-2018)
Source: Own processing of data published by Ministry of Public Works, Development and Administration, www.mlpda.ro and National Institute of Statistics, www.insse.ro

The data show also a strong and positive relation between local capital expenditures/ local socio-cultural expenditures (which include expenditures for education, health, culture, religion and recreation and insurance and social assistance) and GDP. Being a bilateral relationship, besides the role of gross domestic product at county level in determining the size of various local expenditures, the figures 13 and 14 represent another confirmation of the role of local public finances in the development of local communities. These are in line with: Dziemianowicz et al. (2018), showing that local expenditures for roads in Poland may have positive effects on development on long term by attracting new companies; Carniti et al. (2019) claiming that local authorities are key players in terms of investment, the results of the study showing that this category of decentralized spending leads to economic growth.

We wanted to reveal the implication of local finances and on other facets of development. Hence, we calculated an aggregate value for analyse the situation of the educational infrastructure at regional level. The computed Educational Infrastructure Index (EII) includes the following 8 variables at county level in Romania from TEMPO online database of National Institute of Statistics: number of school units, number of classrooms, number of laboratories, number of gyms, number of sports fields, number of PCs per 100 school population, number of libraries. We excluded the Municipality of Bucharest, this being the richest region of Romania and recording very high values of the selected variables compared to the values recorded in the regions of the rest of the country, so these behave differently in its case, producing distortions in calculations and graphic illustration. The formula used in its calculation is similar to that used in the case of the Human Development Index and its values range from 0 to 100. Figure no. 15 represent the evolution of Education Infrastructure Index at county level in Romania.

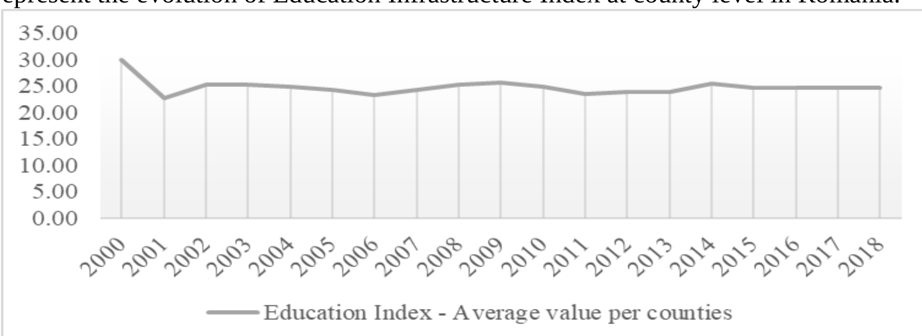

Figure no. 15: Educational Infrastructure Index in Romania at county level (2000-2018)

Source: Own computations using data from National Institute of Statistics, www.insse.ro

As per the graphic illustration, the EII recorded a sharp decrease in 2001, and for the rest of the analysed periods, the trend is in the form of a plateau without registering significant increases and decreases. Thus, the maximum value of the index was registered in 2000 (30.06), and the minimum in 2001 (22.74). The relatively low values of the index are explained by the fact that the maximum limits of some variables are much higher in some counties than the usual (lower) values in the case of other counties. Thus, the maximum calculated value of EII is 72.5 for Iasi county in 2000, and the lowest is 2.6 for Ilfov county in 2005. The next after Iasi county is Cluj county with similar values, but for the rest of the counties the EII index is below 40.

Although the educational infrastructure has improved in many localities both in urban and rural areas over 18 years, it is known that the needs in this area are far from being fully met, and this is quite visible through the aggregate index calculated by us. To achieve this, it is necessary first of all to change the legal framework according to which the financing of education is achieved as a percentage of GDP. As in any field, naturally, financing must be based on real needs to be met, with effective cost control mechanisms.

The relation between local education expenses and Education Infrastructure Index is reflected in figure no. 16.

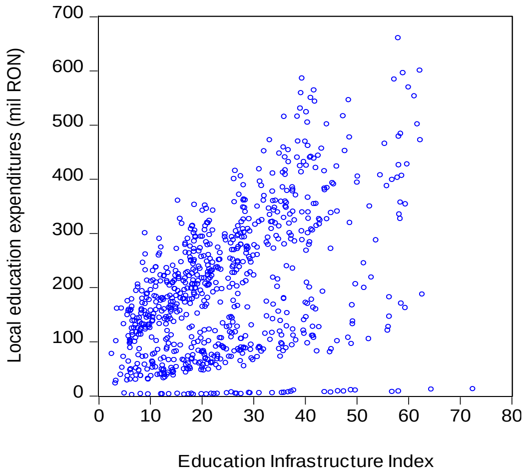

Figure no. 16: The connection between total local education expenditures and Education Infrastructure Index at county level (2000-2018)

Source: Own processing of data published by Ministry of Public Works, Development and Administration, www.mlpda.ro and National Institute of Statistics, www.insse.ro

The graphic illustration reveals a less strong, but positive relation between local education expenses and our calculated Education Infrastructure Index. The point cloud is quite scattered, suggesting that a certain (high) level of local public spending on education is associated with more values of the Education Infrastructure Index. Further, this suggests that the Education Infrastructure Index computed by ourselves at county level is influenced by other important factors, so the public decision makers at this administrative level must analyse the incidence of the other factors on education and possibly to find new ways/ instruments to growth the infrastructure and the quality of education in general.

Conclusions

By this study, it was performed an analysis on the interconnections between local finances and regional development in Romania, particularly emphasizing the implications of various local budget indicators in the development regional entities (NUTS III). The main results confirm a strong interrelationship between different indicators from local public budgets and some indicators of development.
First, on a short analysis of the consolidation local budgets on the revenue side, we conclude that local autonomy in Romania is still insufficient consolidated (just over 50% in last years), considering that the ideal target of autonomy is close to 90% own revenues. The rest of the local revenues are formed mainly by amounts transferred from state budget and directed to various mandatory expenditures. In this context, local financial management is devoid of substance, the circuit of the respective financial resources being in fact, directed (managed) from central level. In our vision, these practices affect the local autonomy and the capacity of proactivity of local managers needed to initiate and conduct political development programs, the natural solutions being the decentralization of some public competencies to be achieved simultaneously with the adequate sources of their financing and also the re-evaluation and re-centralization if necessary, of some public competencies.
On the expenditure side, giving the share between local current expenditures and capital ones, it is recommended an optimal substantiation between the two, considering a minimum allowable of the current expenses and a maximum potential of the capital ones.
A brief analysis of the development in the counties of Romania, reveals huge difference between the GDP level of Municipality of Bucharest and the GDP level as average for the rest of the counties. We note that although at the beginning of the analysed period the difference between the two values expressed was not significant, with the passage of time, the difference between the two increased enormously, deepening regional development inequalities contrary to policies and “efforts” of public authorities to reduce them. In this sense, it is recommended to initiate a differentiated policy on economic development at county level. For the Municipality of Bucharest, the main objectives must be oriented mainly towards sustainability, and for the rest of the counties, the policy objectives must integrate the visions of catching-up in general and sustainability, also.
According our investigation, there is a strong and positive interaction between total local revenues and GDP, the analysis confirming the major influence of the processes of gross domestic product redistribution in the formation of local public financial resources, but also that the total local revenues have their implications on determining a certain level of regional GDP. Similar results were obtained and between local financial autonomy and GDP at county level and on the other side, it is found a negative and strong relation between local financial autonomy and poverty rate, confirming the importance of a performant local financial management for combating poverty and for the development of local communities.
Regarding to the influence of local expenditures we find a significant interrelation of total local expenditure/ various categories of them (capital, socio-cultural) and GDP at county level. The positive role of local finances on territorial development is further confirmed by the positive interrelation between local education expenditures and our

computed Education Infrastructure Index. In this respect, we noticed that although the educational infrastructure has improved in many localities both in urban and rural areas over 18 years, it is known that the needs in this area are far from being fully met (as reflected by the index). To achieve this, it is necessary first to change the legal framework according to which the financing of education is achieved as a percentage of GDP. As in any field, naturally, financing must be based on real needs to be met, with effective cost control mechanisms.
All in all, we should keep emphasizing that the fruitful results of the relationship between local finances and economic development are conditioned by a strong public institution, which concretely must ensure a normal decentralization of public competencies (accompanied by stable and predictable funding sources), judicious substantiation of local public needs with an optimum between public local current and capital expenditures, high level of financial autonomy. Financial autonomy is indisputably necessary for the proliferation of a proactive and responsible attitude from the part of local public authorities and of course for the efficient and effective fulfilment of the needs of local communities and improving their social and economic life. Local institutional capacity may ensure also continuously efforts in order consolidate the local revenues (by implying into municipal associations, public-private partnerships, absorption of non-reimbursable funds or borrowing for investing). In our view, these efforts should be concentrated and with visible results for the close future, giving (not only) the long past horizon when improvements stopped to appear, but also the multitude and pressing needs of the social and economic life for the most of the local communities in Romania.
For further research we propose the objective of establish a clear causal relationship from empirical point of view between local financial indicators and development.

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Appendix

Appendix 1: GDP at county level in Romania, mil. of RON (2012-2018)

Counties	2000	2002	2004	2006	2008	2010	2012	2014	2016	2018
Alba	1253.3	2294.6	4034.8	5718.6	9340.5	9271.0	10061.5	10985.9	12620.0	16182.7
Arad	1867.4	3485.0	5884.1	8219.1	11577.4	11534.4	12871.9	13939.2	16695.6	20735.6
Arges	2316.1	4673.9	7862.0	11785.1	17239.9	16518.8	15725.8	17994.5	20731.9	26339.7
Bacau	2104.0	4096.4	6423.9	8221.1	12363.5	12076.0	12569.1	12992.0	14633.6	18080.1
Bihor	2118.1	4506.2	7054.7	9683.8	14062.8	13347.8	13027.8	15292.4	17474.1	21906.0
Bistrita-Nasaud	933.9	1693.9	2676.0	4034.4	6258.5	6019.1	6535.5	6802.5	8170.3	9697.6
Botosani	945.6	1821.9	2540.4	3496.5	5769.2	5742.1	5924.1	6642.1	7394.8	9677.2
Braila	1028.6	2075.8	3297.5	4382.6	7330.0	6125.7	6925.1	7389.5	8355.8	10662.7
Brasov	2726.3	5389.6	7775.1	10785.2	16163.4	17604.3	20155.0	22195.3	26225.3	32272.9
Buzau	1285.3	2360.9	4266.4	5264.3	8244.3	7908.8	8706.7	9485.0	10444.7	13572.5
Calarasi	699.5	1263.9	2472.3	2726.1	4917.2	4964.5	5021.1	5440.4	6045.7	7532.5
Caras-Severin	1034.9	1950.0	3272.6	4282.7	6200.4	6512.5	6927.6	6955.4	8787.7	9882.6
Cluj	3048.9	6046.2	9591.5	13457.1	21469.4	21226.8	25665.7	29904.7	35841.3	47085.6
Constanta	3483.8	6686.4	10370.9	14839.1	19633.5	21194.1	26333.3	34169.6	34409.5	39441.9
Covasna	881.9	1571.4	2363.1	2756.5	4276.6	4038.1	4281.5	4705.7	5593.4	7210.3
Dambovita	1442.0	2757.2	4570.3	6259.0	9682.8	10934.0	11423.3	11695.1	13734.3	16494.9
Dolj	2038.0	3606.4	6464.6	8626.4	13944.1	14022.3	14846.8	16700.7	18079.2	23735.9
Galati	1961.0	3531.5	5881.0	7116.3	10952.3	10932.1	11317.3	12742.3	12965.0	16733.7
Giurgiu	570.2	1150.7	1918.7	2438.6	3797.6	4238.1	3729.8	4367.9	4772.4	7654.0
Gorj	1492.4	3104.2	4535.1	5843.1	8151.5	9410.8	10508.1	10099.7	12174.5	15510.3
Harghita	1154.5	1976.1	2998.6	4353.0	6393.2	6064.8	6506.9	7114.7	8047.1	10541.7
Hunedoara	1712.4	3306.2	5178.6	6873.4	10174.9	9308.3	10547.4	10918.1	12014.7	14784.3
Ialomita	804.6	1505.5	2739.1	3230.3	4892.1	4543.0	5219.9	5661.0	6477.2	8059.0
Iasi	2447.4	4745.2	7051.3	9742.1	15770.6	16292.2	17569.8	20785.4	23529.6	31274.3
Ilfov	1351.9	2696.9	5245.1	8794.4	14220.3	12445.0	17286.1	17211.2	20530.7	27065.7
Maramures	1299.7	2407.7	4125.9	5733.3	8410.9	8913.7	9808.5	10875.7	12478.0	15870.6
Mehedinti	778.6	1457.7	2560.3	3208.9	4561.0	4291.8	4617.5	4799.9	5580.3	8004.9
Mun. of Bucuresti	16909.6	29990.9	47578.9	72095.7	127455.8	120324.2	139936.9	160210.9	186858.9	229530.0
Mures	2129.3	4055.6	6161.9	8103.6	11924.9	11190.4	13163.1	14666.8	16178.3	20894.5
Neamt	1462.6	2683.8	4154.8	5696.3	7878.8	7390.9	8276.9	8960.8	10512.7	13398.0
Olt	1381.9	2104.1	3606.2	4524.1	6915.4	6971.9	7777.6	8496.3	9273.0	12403.2
Prahova	2999.7	5924.8	8960.4	13382.9	20730.9	18752.6	22880.1	34929.9	34165.4	36566.8
Salaj	672.8	1285.8	2060.9	3102.8	4618.9	4469.1	4944.3	5767.3	6460.8	8329.6
Satu Mare	1048.3	2130.2	3513.1	4431.3	6716.0	6495.3	7150.7	8120.9	9290.9	11804.8
Sibiu	1635.2	3307.6	5125.1	7627.6	11916.4	12184.2	13127.7	13926.9	17626.5	21268.3
Suceava	1829.5	3520.6	5425.4	6926.0	10128.3	10166.6	11049.5	12389.4	13921.8	17608.4
Teleorman	1077.6	1985.9	3201.8	3734.5	6157.2	5828.2	6612.7	7308.5	7672.2	9532.3
Timis	2962.9	5861.7	9791.0	15052.0	25479.9	26107.4	26955.8	29886.0	36514.3	43924.4
Tulcea	651.6	1363.5	2277.6	2954.3	4280.0	4480.9	4910.9	5218.8	5962.5	7689.1
Valcea	1345.2	2339.6	4032.8	5750.7	8325.9	7353.9	8472.6	8688.8	10192.5	13645.3
Vaslui	764.4	1553.7	2491.8	3259.9	5281.7	4921.9	5801.8	6064.4	6997.0	8724.8
Vrancea	1113.5	1872.9	2982.3	4025.2	5774.9	5743.2	6142.7	6730.1	7686.8	9656.8

Source: Own processing of data published by National Institute of Statistics, www.insse.ro